

Excavating the Meaning of Information and Communication Technology Use Amongst South African University Students: A Critical Discourse Analysis

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ABSTRACT

This thesis examines what Information and Communication Technologies (ICTs) mean to South African university students and how these meanings form the basis of technological identities. It explores the relationships between these meanings and identities and the possibilities and opportunities that they create or limit.

The motivation for this research arose from a national survey of students' access to and use of ICTs for learning within the higher education sector (Czerniewicz and Brown 2009b, p44). In this research project, students' disposition towards ICT was overwhelmingly positive and the majority made use of ICTs in some way for their learning. On the surface, it appeared that students thought ICTs were essential, and a positive benefit to their learning.

However, this thesis looks beyond what students are saying about ICTs to how they are saying it, in a bid to determine what underlies these seemingly positive dispositions. Critical Discourse Analysis (CDA) was carried out on responses to open-ended survey questions from 807 students drawing on Fairclough's dimensions of discourse (Fairclough 2001) and Gee's concepts of D(d)iscourses and Conversations (Gee 2005) to determine the different technological identities expressed by university students'. Four key concepts – meaning, identity, power and context – form the central tools of the analytical process.

The range of Discourses uncovered in this study shows that whilst students are adopting the positive expressions of the digital elite with regards to ICTs their Discourses are complex and often contradictory, reinforcing power, domination and interests of certain students at the expense of others. Common technological identities were associated with the dominant Discourses of Globalization, Learning, Determinism and Liberation which were shown to have a bearing on students' current and potential future uses of ICTs for learning.

The study is located in the realm of social studies of Information Systems (IS) and adopts a critical theory lens. Meanings of ICTs are examined within the historical and cultural context of students' experiences. In doing this I critique the opinion that technology is automatically a necessary and good tool for societal and educational change and seek to use the knowledge created from the research as a catalyst for change by giving voice to marginalized student groups

Dedicated to my father in law

John T. Brown

1935-2011

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ACRONYMS

ANC	African National Congress
BECTA	British Educational Communications and Technology Agency
CAI	Computer Aided Instruction
CDA	Critical Discourse Analysis
COPE	Congress of the People
CRIS	Critical Research in Information Systems
GDP	Gross Domestic Product
HEIs	Higher Education Institutions
HEMIS	Higher Education Management Information System
HictE	Information and Communication Technologies in Higher Education
HSRC	Human Science Research Council
ICT	Information and Communication Technology
IS	Information Systems
ISAD	Information Society and Development
ITS	Information Technology Services
ITU	International Telecommunications Union
LMS	Learning Management System
MPCCs	Multi-Purpose Community Centers
NEIMS	National Education Infrastructure Management System
NRF	National Research Foundation
NTIA	National Telecommunication and Information Administration
NWU	North-West University
PITs	Public Information Terminals
PNC	Presidential National Commission
SA	South Africa
SANGONET	South African Non Government Organization network
SEB	Socio-Economic Background
SEG	Socio-Economic Group
SFL	Systematic Functional Linguistics
TELI	Technology Enhanced Learning Initiative
TODA	Textually-Oriented Discourse Analysis

UCT	University of Cape Town
UFS	University of the Free State
UJ	University of Johannesburg
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISA	University of South Africa
USA	United States of America
USAASA	Universal Services and Access Agency South Africa
Wits	University of the Witwatersrand
WSIS	World Summit on the Information Society
WSU	Walter Sisulu University

1 INTRODUCTION

Its nothing more except or despite the fact that its me because thus far i'm not computer competent due to the environment i hailed from i would if it were possible ask to be taught firstly some basics that will lead me into knowing computer as i know myself [ID 88]

This thesis examines the complex social system of the use of Information and Communication Technologies (ICTs) for teaching and learning amongst higher education students in South Africa. It will seek to better understand what meaning (conceptualized broadly as values, assumptions, perceptions, attitudes, opinions, experience) ICTs have for students within their local context and the broader national higher education community. This thesis is situated in the ambit of social studies of Information Systems (IS) and expands on the mainstream body of IS research, which is typically centered in professionally-managed business organizations (Avgerou and Madon 2004). This domain has, since the 1990s, focused on investigating the relationship of ICTs and society and widened the dimensions of IS enquiry to aid in the interpretation of socio-technical phenomena.

The motivation for this research arose from a study of South African university students' access to and use of ICTs for learning at university. In this project, students' attitudes towards ICTs were overwhelmingly positive, with quantitative data showing that students thought ICTs were essential for education and a positive benefit to their learning (Czerniewicz and Brown 2009b). A link between positive disposition and above-average use of ICTs for learning led the authors to conclude that positive attitudes were an enabler in the take up of ICTs for e-learning (Brown and Czerniewicz 2007; Czerniewicz and Brown 2009b). However, in a society such as South Africa with its legacy of apartheid (Department of Higher Education and Training 2010) and with a growing and increasingly diverse student body (Cooper and Subotzky 2001) within a higher education sector only recently restructured towards transformation (Department of Education 2001; Gillard 2004) and operating for the most part under significant resources constraints (Council on Higher

Education 2004; Steyn and de Villiers 2007), it seemed to me curious that students' attitudes could be so similar and so positive.

Globally, there is a paucity of research from the perspective of students as actors embedded in the setting of the higher education institution (Selwyn 2006). It has been argued that such a situated approach, one that examines meaning, legitimacy and value at an individual level (Avgerou and Madon 2004), is essential to understanding how IS is used within an organization (Johnson and Aragon 2003; Tolmie 2001) in order to avoid universalistic assumptions of knowledge and value. It was this that propelled me to begin to look at other ways of unpacking the complexities of what ICTs really mean to students and what influence this may have on the way they use technology in higher education.

The data for this research is drawn from open-ended questions from a survey of students' access to and use of ICTs carried out initially in 2004 and then in 2007. The latter survey, which was conducted amongst 3,533 students from six universities across South Africa (located in four provinces), forms the primary data source. Responses to the open-ended questions were high (88% of students answered at least one question) and have provided an extensive corpus of texts.

I use the lens of critical theory to examine how the meanings students give to ICTs shape their use of technology. As a paradigm, critical theory is reflective in that it considers the wider social context (Klein and Huynh 2004, p164) and is based on the notion that people have the ability to alter the conditions of their own existence. Critical theory thus requires paying attention to issues such as power, domination, conflict and contradiction (Howcroft and Trauth 2004). Like others (Avgerou and Madon 2004; Klecun 2008; Kvasny, Sawyer and Puraio 2004; Kvasny and Trauth 2002; Stahl 2008b), I contribute to this domain of IS research by investigating power and empowerment amongst marginal groups within the context of developing countries.

This is particularly pertinent in the South African context as the end of apartheid initiated an intense period of focus on social equity and redress post-1994. In higher education, this meant the restructuring of a *"landscape that was largely dictated by the geo-political imagination of apartheid planners"* (Department of Education 1999,

p11). Whilst the participation in higher education and diversity of the student cohort has begun to increase¹ (Council on Higher Education 2010; Department of Education 2005), South Africa still faces the issue of worryingly low completion rates amongst university students² (Council on Higher Education 2010; Motlanthe 2010).

It is against this backdrop that the systemic and rapid utilization of technology within teaching and learning began to emerge (Jansen 2003; Paterson 2004). The idea that technology could drive some form of transformation quickly gained prominence in South African national policy documents, such as The National Plan for Higher Education (Department of Education 2001), The National Research and Development Strategy (Department of Arts Culture Science and Technology 2002), the National Research and Technology Foresight ICT Report (Department of Science and Technology 2000), and the White Paper on e-Education (Department of Education 2003), which all assume that ICTs are central to improving education. These documents argue that using ICTs will, variously, add value to education, improve teaching and learning, encourage innovation and contribute to transformation.

Higher education has an additional pressure in terms of its use of ICTs as it is seen as central to developing an information society. Castells locates higher education as the "*engine of development in the new knowledge economy*" (Council for Higher Education Transformation 2006, p3). This position has been reiterated in terms of African development by Kofi Annan (Bloom, Canning and Chan 2006) and in South Africa's National Plan for Higher Education, which states that the sector has "*a critical and central role to play in contributing to the development of an information society in South Africa both in terms of skills development and research*" (Department of Education 2001, p5).

However, the view that ICTs are great equalizers has receded as local realities and complexities of implementing ICTs in education in a diverse and divided terrain have

¹ University enrolments increased by 27% from 2000 to 2003 and the proportion of Black students rose by 40% from 1999 to 2005.

² The 2005 drop-out rate is reported as 50% and in 2010, our Deputy President quoted a 35% drop-out rate for undergraduate degree studies and a 70% drop-out rate for distance higher education.

become more evident (Czerniewicz, Ravjee and Mlitwa 2006). ICTs form only one thread in a complex net of issues, and their use is dependent both on the broader socio-economic and political contexts, and on the local struggles and strategies around the distribution of resources and other aspects of redressing historical inequity (Ravjee 2007).

A very pertinent issue facing South Africa and other developing countries is how we ensure that by using ICTs in teaching and learning we don't further disadvantage already disadvantaged students and yet still provide them with opportunities to participate in global, intellectual communities. As Broekman et al. remark "*We do not wish to discriminate against students with less capacity – nor those with more capacity – to benefit or not to benefit from ICTs in the higher education sector*". (Broekman, Enslin and Pendlebury 2002, p34).

Consequently, in the rapidly-changing environment of South African higher education, there is a lack of clarity about ICTs at four levels:

- The significance ICTs have to students as an educational good or commodity.
- How the global understanding of the information society or knowledge economy relates to South African higher education students.
- Whether the use of ICTs is equipping students to be successful participants in the post-university world.
- Whether ICTs in higher education are perpetuating existing divides amongst students.

I use Critical Discourse Analysis (CDA) as the mode of analysis, drawing on both Fairclough (Fairclough 1992, 1995, 2001, 2006) and Gee (Gee 1996, 2000, 2004, 2005) to understand more about the social relationships and identities students maintain in terms of ICTs. The specific concepts that inform this study are the linguistic features of agency and modality (Fairclough 1992), Gee's notion of D(d)iscourses³. The former is a means of explaining a social group's way of being in the world, its "form of life", its very identity (Gee 2005) as well as conceptualization of grand societal "Big C" Conversations (Gee 2005). The latter, along with

³ Referring to Gee's notion of big D, little d D(d) discourses

Fairclough's three-level framework (Fairclough 2001) enables the situating of texts within the socio-historical conditions and context that govern their process.

Whilst discussion about meanings and identities is illuminating in helping universities to better understand their students' ICT behaviors, it also has specific relevance because meanings and identities influence the way students use ICTs for learning. As Goode notes, the type of technological identity a student holds creates both academic opportunity and obstacles for him or her (Goode 2010). I, therefore, draw on Foucault's understanding of power as a choice under constraint to examine how students are empowered or disempowered through their Discourses about ICTs (Foucault 1994a). I then examine in detail the relationship between students' Discourses and their use of ICTs for learning.

The primary research question is: **How do Discourses shape students' use of technology in higher education in South Africa and how does their use of technology shape South African students?** In order to unpack the various aspects within this research question, I focus on a number of secondary research questions aimed at uncovering more about discourses, students, use, the shaping of use and higher education.

discourses

- What are the different social meanings students associate with the use of technology for teaching and learning in higher education?
- How are these social meanings different from other development and educational contexts?
- What representations of the world are constructed and what are left out?

university students

- How are these Discourses influenced by students' access to ICTs and social demographics?
- What is the role of these Discourses in maintaining the students' social worlds or furthering the interest of their social group?
- Do various social meanings constitute a common Discourse identity amongst students?

use of technology

- How do Discourses empower or disempower students in terms of their use of technology?

shaping

- Who/what is constructing/sustaining students' Discourses at a macro level?
- What possibilities/opportunities are created or limited for students by their Discourses?

higher education

- What implications do these Discourses have for higher education policy and students' practices?

The thesis is comprised of seven chapters. In Chapter 2, I provide a background to the research by examining aspects of context which are directly relevant to students' experiences of and attitudes towards ICTs. I use Rogers' representation of context at the local, institutional and societal level (Rogers 2004a, p243) to describe the global and national milieu of the information society, and the infrastructural setting in which students exist. I then examine the institutional context of schooling and universities and the ICT practices within them before considering the local context of the students themselves, their backgrounds and ICT contexts in which they are likely to find themselves in the particular time period in which the data was collected.

Chapter 3 introduces the reader to my theoretical approach and provides an overview of critical theory particularly as it pertains to the field of IS. I explore some of the dominant approaches to critical theory within IS and explain my choices of adopting a Foucauldian perspective. I outline the analytical path of CDA as it is used within its dominant fields of linguistics and education and within IS. There are many different critical discourse theorists and the approach of the two most pertinent to my study, namely James Paul Gee and Norman Fairclough, are described in further detail. I follow a recommended process of developing an integrated theoretical framework, outlining my key conceptual tools and analytical framework (Weiss and

Wodak 2003). I situate this within a reflexive account of my personal motivations for undertaking this research.

In Chapter 4, I provide details of my methodological strategy, outlining the details of my study, data collection process, and the analytical approach of both the pilot and the main study. I illustrate the step-by-step process I followed in undertaking the CDA and review some of the limitations of this approach.

My findings are presented in Chapter 5 in three sections. The first section introduces six themes that emerged from the study. It provides an illustration of the use of the linguistic and discursive analytical tools I outlined in Chapter 3 and draws them together within my conceptual framework. The second section makes the case for the consideration of these themes as Discourses and starts to compare and contrast these with each other. The third section provides a picture of the dominance of the various Discourses across the entire corpus of text, i.e. the "big picture", and looks at some interesting differences across the various subsets of the corpus.

I have chosen to use the discussion in Chapter 6 to revisit the research question as this provides a systematic yet discursive way of contextualizing the findings and linking the data back to the area of inquiry.

Finally, I conclude in Chapter 7 by returning to the issues I highlighted in the problem statement in Chapter 1 to highlight how this research has contributed to our understanding of using technology in higher education in a developing country and to draw attention to the generalizable aspects of the findings that have relevance in other contexts

2 BACKGROUND TO RESEARCH

2.1 INTRODUCTION

The crux of the understanding developed through CDA is the result of a contextualization process in which texts are produced within a particular set of contexts by the participants in an interaction. In order to be explicit about the contexts in which students are operating, I draw on Rogers' representation of the local, institutional and societal levels of context as a framing for the background to this research (Rogers 2004b; 2004c p 243).

At the level of the societal context, I examine concepts of the digital divide and information society as they have developed globally and then as they have been interpreted within South Africa, as well as the role of education and the workforce in terms of maintaining and promoting these concepts. I then paint a picture of the ICT landscape in terms of physical access conditions in the time period under examination. At the institutional level, I provide an overview of higher education in South Africa and the institutions from which the student respondents were drawn. Then at a local level, I provide the context about the higher education students themselves.

As this thesis draws on data primarily from a student survey conducted in 2007, this chapter aims to provide background into students' "worlds" at this period of time and, as such, also charts or maps some of the changes and developments leading up to this period. I specifically examine those aspects of context that might have had direct relevance to university students' experiences of and attitudes towards ICTs. If I had examined the meanings of ICTs across all South Africans, then this context would have naturally been broader. As conclusions about these findings are being drawn in 2010, it is also necessary for me to provide a brief overview of the current situation so that the readers can understand the circumstances in which the recommendations are made.

2.2 SOCIETAL CONTEXT

ICTs are represented in various ways in global discourses. There are two dominant themes in the literature. One theme is the reference to the physical objects themselves, i.e. the computer or mobile phone and their interconnectedness, i.e. networks or the Internet, with the focus being on access to these objects and the digital divides that ensue because of a lack of equal access. The other theme is what these physical objects enable, i.e. economic participation in the information society. Both these themes appeared in public discourse around the mid-1990s.

2.2.1 DIGITAL DIVIDE: THE CONCEPT

The digital divide is a concept that first arose in the discourse of the American government in the 1990s during the Clinton administration (Kling 1999). The National Telecommunication and Information Administration (NTIA) in the US Department of Commerce undertook a survey in 1995 to explore the information disadvantaged in rural and urban America (National Telecommunication and Information Administration 1995, p.2). The work of the NTIA shows the way this issue evolved in first world government strategy and priority over time. The first falling-through-the-net survey aimed to *"fill the lacunae in the nation as universal service database"* (National Telecommunication and Information Administration 1995, p.2). The second survey began to focus on the persisting digital divide, looking at information "haves" and "have-nots" (National Telecommunication and Information Administration 1998). Both surveys drew profiles of the least connected people, highlighting the rural poor, minorities such as Hispanic and Black households, the young, rural low-income households and single-parent female households as the least information advantaged (National Telecommunication and Information Administration 1995, 1998). By 1999, the NTIA started to define the digital divide and examine the widening gap between information haves and have-nots, particularly between White and Hispanic and Black households, and between high education and income groups and low education and income groups (National Telecommunication and Information Administration 1999). Then, in 2000, the NTIA adopted a change in terminology and started to pick up on the subtle but yet key change to discussions about the information society by examining access in terms of digital inclusion. The change occurred because the NTIA believed the digital have-nots were making dramatic

gains and that, given the growth and expansion of computers and the Internet in 2000 (they predicted that by mid-2001, half of Americans would be using the Internet), it was necessary to start to measure the differences in the shares of each group's digital connectivity (National Telecommunication and Information Administration 2000).

However, one of the biggest problems with the NTIA's approach to examining the digital divide was its focus on physical access, i.e. ownership of or access to computers and the Internet. This narrow conceptualization of access to ICTs was widely criticized, with opponents saying it was unidimensional and too narrow in dimension, and adopting a variety of takes on expanding or redefining the concept (see below).

One of the criticisms leveraged at the digital divide concept is the lack of consideration for the personal and social dimension of access. For example the term digital divide makes it appear as if technological access is a primary roadblock, whereas in practice, social access will be critical in the spread to the next generation Internet (Kling 1999), and technology access is only one small piece of a much larger puzzle (Carvin 2000).

Others acknowledged its usefulness at the time and started to argue for a shift of emphasis by unpacking the phrase "access to the Internet", looking for patterns of inequality, arguing that if the notion of access is seen to be static, then increasing access will result in an overcoming of the digital divide – a view that would be blind to the development of new forms of inequality (DiMaggio and Hargittai 2001). DiMaggio and Hargittai went on to suggest that one needs to move beyond the binary view of access as being haves or have-nots, to examining dimensions of access and therefore inequality.

The British Educational Communications and Technology Agency (BECTA), in their discussion of the digital divide, note many dimensions that present multiple barriers to individuals' or groups' effective use of ICTs, ranging from socio-economic status to gender to geography to ethnicity to disability to age (BECTA 2001). However, Warschauer criticized these generalizations as being inaccurate and patronizing, explaining that in the US, African Americans cannot all be portrayed as being on the wrong end of the divide as this varies within minority groups in terms of income group

(Warschauer 2003a). His research outside of the US provides some key insights to reconceptualizing digital divides and says that, whilst these generalizations provide a useful role in focusing attention on an important issues, it draws attention away from the complex long-term processes that underlie social development and inclusion (Warschauer 2003a; Warschauer 2003b).

Then, during the Bush administration years in the United States, the phrase "digital opportunity" replaced the discourse of the divide within the US government which gave a positive spin on the issue of access to ICTs (Strover 2003).

One of the important evolutions of the concept of the digital divide was the broadening of the divide as being not just about access but also about use (Couldry 2003). In fact, some authors have taken this further and started to refer to the digital usage gap or digital differentiation (Van Dijk and Hacker 2003). Even in 2000, groups like the Athena Alliance (Jarboe 2001) were talking about the technology usage divide, arguing that simply having access to technology was not enough to ensure inclusion and participation.

It was these kinds of discussion that led to the development of much more complex conceptual frameworks for analyzing and examining the digital divide. Some of these were very practical, for example the 6 C Typology (Jarboe 2001; Orville 2000) and Access Rainbow (Shade 2002). Others were more theoretical, drawing on Bourdieu's notions of capital (Kvasny 2002) or new literacy theory (Warschauer 2003b).

Recently, there has been a growing awareness of the relationship between social exclusion and digital exclusion (Cushman and McLean 2008; Helsper 2008; Klecun 2008). For example studies of digital inclusion originating in the United Kingdom have noted that *"Those who are most deprived socially are also least likely to have access to digital resources such as online services"* (Helsper 2008, p.4) and *"digital exclusion compounds social exclusion, limiting people's opportunities for personal, social and economic growth"* (Klecun 2008, p.268). Other studies have noted digital opportunities are still stratified along lines of social inequality, even in industrialized countries (Kvasny 2002), although they have cautioned that this is more complex and part of a broader process of social deprivation that works to *"deprive people of access to opportunities and means, material or otherwise"* (Zheng and Walsham 2008, p223).

2.2.2 GLOBAL DIGITAL DIVIDE

The issue of a global communications divide is not new. In 1985, the Maitland Commission, set up by the United Nations (UN) International Telecommunications Union (ITU), published a report called *The Missing Link* which highlighted the huge gaps in access to telephones by people in developing countries (Souter 2005).

In 2000, the gap between the developing and developed worlds in terms of access to information and communication was highlighted in the G8 meeting and the Okinawa Charter on the Global Information Society (Jarboe 2001). A UN taskforce, the Digital Opportunities Taskforce (DOTForce), was established in 2000 to look at how ICTs could be made more widely available to the developing world. The ITU established the ICT Indicators Database for global collection and reporting on telecommunication infrastructures and access in 2002, and ORBICOM (a UNESCO established project) began monitoring the digital divide in 2003 as a response to the lack of adequate approaches to quantifying gaps between information-rich and information-poor countries. In December 2001, the ITU and the UN adopted a resolution calling for the organization of the World Summit on the Information Society (WSIS) (United Nations 2002).

2.2.3 INFORMATION SOCIETY

The information society (also referred to as network society or knowledge society) is a term used to describe our current society where ICTs are perceived to be at the heart of our economy and our lives. Two of the better known theorists of the information society are Daniel Bell and Manuel Castells. Bell originally wrote in 1974 that the computer would play a central role in the coming societal revolution out of the industrial age to a post-industrial (service-oriented) society (Mackay, Maples and Reynolds 2001). He examined the drift in the experience of the civilian workforce over the past 100 years and showed how the information sector had increased hugely whilst the agriculture and industry sector had decreased. Bell has a clear technological deterministic view in that he saw technology as shaping our society.

Castells, also trying to come to terms with the emergence of new social structures, examined the Network Society and saw growing inequality, exclusion and

polarization with the demise of the labor-intensive industry. He argued that there is a rise in the informational mode of development and made subtle distinctions between information society (which is about the role of information in society) and the informational society (the form of social organization in which information generation, processing and transmission are fundamental to productivity and power) (Castells 1996).

Whatever one's theoretical perspective, notions of the information society arise out of trying to make sense of social issues and change in our present world. The discourse of the information society is pervasive in the WSIS. In an analysis and critique of the motivations behind WSIS, Pyati examined how the term "information society" is used with the key declarations and plans of WSIS. He noted that the term is not explained anywhere and the reader is assumed to already be aware of the meaning and importance of the term in the modern world. The closest definition can be implicitly derived from the first paragraph where it appears that information society is based on notions of knowledge and information to achieve development goals (Pyati 2005). Technological utopianism and determinism permeated the UN's idea of information technology as having the ability to transform society.

However, the aim of this thesis is not to examine the theory of the information society. Rather, it is to contextualize how this discourse is appropriated within South Africa and to, in turn, set the scene for the ways ICTs could be perceived in students' lived environments within universities.

The discourse of the information society has been a regular theme in politics within South Africa since 1995, with President Nelson Mandela's speech at the opening of the International Telecommunications Unions Telecom 1995 conference in Geneva. The main underlying driver of South Africa's political discourse about the information society was the onset of the global information economy, the convergence of ICTs (i.e. telecommunications, broadcasting and computing etc.) and the promise of the positive impact on social change (van Audenhove 2003).

Where Mandela saw technological convergence as offering a window of opportunity to eliminate the distinctions between information-rich and information-poor countries and the global north and south, our subsequent South African President Thabo

Mbeki regarded knowledge and information as prime productive resources in the global and local economy.

The South African government's discourse about ICTs has been described as a *"complex mix of myth, ideology and utopia"* (Pejout 2004, p185). Pejout, in his analysis of the development of our government's rhetoric about ICTs since the mid-1990s, pointed to some key visions which underpin their stance about ICTs, namely the integration of the poor into the knowledge economy and the role of information as an agent of empowerment (Pejout 2004). However, Pejout noted that one of the key confusions that arises from discourse is that between information and knowledge with rare acknowledgement, that there needs to be some kind of intermediary for information to be usable in terms of knowledge. Within this rhetoric, information becomes a commodity; ICTs make knowledge easier to obtain and the marginalized become empowered through information. Technology is positioned as a tool for radical democratization (Pejout 2004).

The significance the South African government attributed to the information society is evidenced by the way it made its way into formal "policy" when Thabo Mbeki set up the Presidential Advisory Council on Information Society and Development in his State of the Nation address in 2001.

With reference to the ICTs sector, President Mbeki announced:

"Because of the critical importance of this sector, we will also establish two bodies to assist the government as it works further to ensure that we do not fall further behind the rest of the world as a result of the digital divide." (Mbeki 2001, np)

These initiatives included the establishment of the Presidential National Commission on Information Society and Development (PNC on ISAD) and a Presidential International Task Force on Information Society and Development which was set to comprise *"CEOs from major international corporations and experts active in the field of information and communication technology"*. In his announcement, Mbeki then

went on to thank skilled people in this sector for their *"unequivocal commitment to helping our country to get onto and stay on the information super-highway"* (Mbeki 2001, np).

At this time, having a national information society strategy became an important agenda. Research was commissioned, reports were written and the concept featured strongly in various government speeches. This was not surprising, given the lead up to the global World Summit on IS, which was held in 2005. In fact, Pyati, in his critique of WSIS, noted that the use of the concept of the information society in WSIS was *"problematic because of the legitimizing power of the United Nations and its ability to shape world public opinions on topics"* (Pyati 2005, np).

South Africa had a strong pre-WSIS build up with civic and academic participation in initiatives like Information Society Week, organized by the Provincial Government of the Western Cape. This resulted in the publication of strategy documents like Go Open Source Task Team Strategy Document (CSIR 2005) and Civil Society Statements, coordinated by SANGONET, as well as government consultative forums, such as the Women's Mutingati on the Information Society, organized by the Department of Communications.

Indeed, an extract from Mbeki's WSIS speech is quoted on the front page of the PNC website.

"Indeed, the creation of an inclusive and development-oriented Information Society is in the best interests of the majority of humanity, because most of the peoples of the world, especially from the developing countries, are confronted by the challenge of exclusion in the context of the global economy, in whose development modern information and communications technologies (ICTs) play a vital role" (Mbeki 2005, np)

Clearly, WSIS was a globally-strategic event and one to which there was a big build up in South Africa. The hype made its way through government, academia, civil

society and media, with research and development organizations, such as the Meraka Institute and Shuttleworth Foundation, profiling their participation in the ICT 4 All Exhibition (World Summit on the Information Society 2005). Professional organizations in engineering, law and librarianship highlighted WSIS roles in business development, accessing knowledge and online freedom of speech, and the South African government profiled President Mbeki's role in WSIS (Info.gov.za 2005) as well as other contributions, such as the Women's Charter on Information Society and Development.

However, not all South Africa's responses were caught up in the hype of mimicking global trends. For example an NGO called Bridges.Org started promoting the concept of real access, challenging notions of the digital divide by raising issues of relevance, affordability and trust. The University of Cape Town (UCT) also developed a locally relevant conceptual framework of access, as part of a study into access and use of ICTs in higher education (Czerniewicz and Brown 2005a).

The PNC on ISAD continued after WSIS, with activity highlighted in two newsletters in 2007. ISAD unveiled its National Information Society and Development (ISAD) Plan which was approved by Cabinet together with the Institutional Mechanism on the 7th February 2007.

The PNC website notes the aim to *"build an inclusive Information Society in which human rights, economic prosperity and participatory democracy are fully realised through optimising the usage of ICTs for a better life for all "* (Presidential National Commission on Information Society and Development 2010, np). From as early as 1995, the South African government has insisted on the value of ICTs to link people for information exchange, expansion of knowledge and the development of individuals and institutions. The launch of the Youth ISAD Program together with three projects targeted at youth, namely e-Cooperatives, e-Literacy and the National Digital Repository followed shortly after.

However, in the lead up to a rather difficult 2009 election campaign and after the resignation of Thabo Mbeki and the defection of Ms Lyndall Shope-Mafole, the Chairperson of the PNC on ISAD, to breakaway political party Congress of the People (COPE), activities with regard to the PNC ground to a halt.

The PNC lay dormant as President Zuma took the country's reins in 2009, and currently the issues of the information society and South Africa's strategies have dropped off the forefront of the African National Congress (ANC) agenda. In his 2010 State of the Nation Address, President Zuma outlined his commitment to create sustainable jobs, provide opportunities for youth and ensure rapid service delivery to marginalized areas (Office of the Presidency 2010), indicating that the building of the development state could no longer happen along the same lines as before (Department of Communications 2010, np). Despite ICTs not being explicit at the level of the presidency, they are regarded as a *"potentially transformative development tool"* and the Department of Communication wants South Africans to be *"empowered to access information and knowledge to bring about social transformation and cohesion"* (Department of Communications 2010, n.p.). Amongst the infrastructural and policy agendas of their top five priorities are to implement the information society through a number of core programs, such as the E-Skills Institute, the national youth program and the e-Barometer (Weideman and Weaver 2009).

However, despite this change of government focus on the information society and ICTs, much of the same philosophy still appears to underpin the agenda and a range of government departments still regard ICTs as critical for economic development. The Minister of Tourism and Economic Development and the Chairperson of the Portfolio Committee on Communications both show the essentialism with which they regard ICTs in various keynotes and lectures. For example *"there is a direct positive correlation between access to ICT, social, economic and spatial integrated development"* (Matsemela 2009, p6), *"digital inclusion and universal access, ... is a vital pillar of an information age, yet, it has not happened"* (Vadi 2009, p6). The Department of Communication still regards the ICT skilling of people as essential in increasing people's life chances to *"gain meaningful work in our rapidly changing world"* (Department of Communications 2010), and joint initiatives of the Departments of Communication and Basic Education, such as the Connectivity Plan for Schools and the Teacher Laptop Initiative, are directed towards this endeavor. In a recent address in the Western Cape, Deputy Minister of Basic Education concluded *"Lastly, my message to you is that: 'Competence in ICT is a fundamental competence in a knowledge society'"* (Department of Basic Education 2010a, n.p.).

2.2.4 SOUTH AFRICA: INFORMATION SOCIETY AND ACCESS

All this policy occurs in a context that has significant infrastructure constraints and inequities.

ICT indicators in Africa are collected by a number of global agencies, such as the ITU's world telecommunications database and ICT Sector Performance in Africa published by researchictafrica.net (Tlabela, Roodt, Patterson and Weir-Smith 2007). The main research-based large-scale ICT survey conducted in South Africa has been undertaken by the LINK Centre of the University of the Witwatersrand (Gillward 2005).

Commissioned on behalf of the Universal Services and Access Agency South Africa (USAASA), the HSRC obtained data from ICT service providers and other relevant government data sources to create indicators and map and model data on ICT access for South Africa (Tlabela *et al.* 2007). Although the report was published in 2007, much of the data relates to an earlier period, given the time lag and collection cycles of the various departments. What follows here is a synopsis of key ICT issues that affected South Africa before and during 2007 – the period under study.

In 1992, only one in 237 people worldwide used a mobile phone. A decade later (in 2004), this had soared to one in five (Tlabela *et al.* 2007, p11). In South Africa, the number of mobile subscribers overtook fixed line subscribers by 2000 (Thioune 2003). Access to mobile phones for low income sectors opened up with pre-paid options and 65% of mobile phone subscriptions in 2010 were pre-paid (AMPS 2010).

By 2005, more than 94% of the South African population lived and worked within mobile phone coverage areas (Tlabela *et al.* 2007). In 2003, household access to mobile phones was highest in Gauteng (48.7%) and the Western Cape (46.7%) and lower in the Eastern Cape (25%) and Northern Cape (20%) (Tlabela *et al.* 2007), with a national average of 33.1%. However, the 2007 labor force survey noted that the percentage of households that owned mobile phones had increased from 49% in 2004 to 73% in 2007 (Statistics South Africa 2008).

At a provincial level, landline access is also unequally distributed with higher concentrations in urban areas and metropolises. The Western Cape has the highest

percentage of households with access to landlines at 55% in 2003, with the Eastern Cape, North West and Limpopo at 15%, 15% and 7% respectively (Tlabela *et al.* 2007). Only the Western Cape has more landlines per household than mobile phones. In other provinces like North West, the difference in percentage is some 20% (Tlabela *et al.* 2007).

Spatial mapping of Community Service telephones shows that despite large scale roll out, these have been largely concentrated in urban and metropole areas, and not in the under-served rural areas that need them most (Odendaal, Duminy and Saunders 2008).

In 2004, access to the Internet was mainly obtained through a personal computer. According to Gillward and Essler (2005), 4% of South African households had Internet at home, with around 5.7% an email address. Approximately 75% of the SA population had never used the Internet.

The South African government identified a range of other community access services that would act as ICT service centers. These included Multi-Purpose Community Centers (MPCCs), Telecenters, Public Information Terminals (PITs) and libraries. Again, these are concentrated more in high-density urban areas than in low-density rural areas. This is not necessarily problematic as the majority of the country's population resides in urban areas and in a developing country, public facilities are an important component of ICT access. The HSRC report (Tlabela *et al.* 2007) developed a composite indicator of public access in order to capture the overall state of access to public Information Technology Services (ITS) facilities. They demonstrate a distinct variation across provinces and municipalities which is symptomatic of inequality in provision.

Private access to ICT (average per household) was low and markedly different between urban areas and the rest of the country.

Table 2-1: Snapshot of ICT access within SA for 2004 and 2007 (International Telecommunication Union 2005, 2007)

Country/year	Fixed per 100	Mobile per 100	Ratio cell to fixed	Internet per 100	Broadband per 100
SA 2004	10.22	43.89	4.3:1	8.43	0.13
World 2004	18.66	27	1:1	14.11	2.45
SA 2007	9.22	86.02	9.3:1	8.07	0.77
UK 2007	55	121	2.2:1	71	25
USA 2007	51	85	1.7:1	71	22
Australia 2007	46	101.95	2.2:1	68	23
World 2007	19.01	50.21	3:1	20.30	5.25

As with most ICTs worldwide, the level of access continually increases over time. However, South Africa does not mirror the rapid pattern of global change entirely. For example, the global average for Internet subscriptions increased by 8% between 2004 and 2007 whilst in South Africa it decreased. Broadband subscription within the Internet-using population is also exceptionally low, accounting for less than a tenth of Internet subscriptions in South Africa in 2007 compared to over a quarter of Internet subscriptions globally (Table 2-1).

Table 2-2: Changes between 2000 and 2005

per 1000 people	SA 2000	SA 2005
Fixed lines	113	101
Mobile subscribers	190	724
Internet users	55	109
Personal computers (PCs)	66	85
Broadband subscribers	0	3.5
Internet bandwidth (bits pp)	8	19

However, what is most interesting in the South African context is the rapid explosion of mobile technology, with access almost quadrupling in just five years (Table 2-2).

Brown, Thomas, van der Merwe and van Dyk have noted a number of key infrastructural issues that impact on the use of ICTs in higher education (2008), namely that:

- The number of Internet users is higher than the availability of personal computers, which indicates how critical community facilities and work environments are in providing access to ICTs;
- Internet costs constitute an important issue for academics and students alike. In 2007, South Africa's Internet costs were the most expensive in Africa and one of the most expensive in the world;
- Limitations in bandwidth impact on the teaching and learning environment, governing what is possible and what is easy to do; and
- Access levels remain disparate between demographic groups and in different regions (Brown and Czerniewicz 2008).

2.3 INSTITUTIONAL LEVEL: SOUTH AFRICA'S HIGHER EDUCATION CONTEXT

As mentioned in the introduction, the South African higher education sector has undergone an intensive period of change post-1994 with the introduction of our first Government of National Unity. However, it is worth noting the context that preceded this as it explains some of the complexities of this restructure. Prior to World War 1, South Africa's higher education system consisted of many university colleges and a single university, the University of the Cape of Good Hope, which acted as an external examining university along the lines of the University of London and other similar establishments in ex-British colonies at the time (Cooper and Subotzky 2001). Cooper and Subotzky describe tensions between the colleges based on rising Afrikaner nationalism. In 1916, the Universities Act was passed, which resulted in the establishment of the Universities of Cape Town, Stellenbosch and South Africa. After World War 2, other colleges moved to obtain their own university charters along the lines of either English or Afrikaans language mediums, with UNISA restructuring to become a distance-learning university. By the mid-1960s, there were ten historically White institutions and UNISA. The emergence of the historically Black universities began to proliferate after the introduction of rigidly-imposed formal

apartheid in 1948. Initially, this resulted in the creation of tribal colleges (which later became full universities) under a Ministry of Bantu Education, which was followed later by the creation of universities for ethnic groups of Colored ⁴and Indian "middle classes" and resulted (between the period 1959-1982) in a further ten historically Black universities, bringing the total number of universities to 21. In addition, in the 1960s, technikons (or Colleges of Advanced Technical Education) were also established (Cooper and Subotzky 2001). Consequently, seven historically White and seven historically Black technikons also emerged. These are now referred to as historically advantaged or historically disadvantaged. It is evident from this that South Africa's higher education landscape was, as former Minister for Education Kadar Asmal noted, *"largely dictated by the geo-political imagination of apartheid planners"* (Department of Education 1999, np). In 2001, a National Working Group appointed by the Minister of Education released a plan for the restructuring of the higher education systems in South Africa recommending the reduction of 36 higher education institutions to 21 (Department of Education 2001).

The cabinet approved the proposed mergers and, in a relatively short period of time, the higher education landscape comprised a total of 21 institutions - 11 so-called "traditional universities", six universities of technology, and six comprehensive universities - one of which is a distance education institution, namely UNISA (Hodgkinson-Williams 2009; Jansen 2003). In some cases, this involved the merging of distinctly different institutions, i.e. a previously advantaged and a previously disadvantaged institution or the merger of a university and a technikon, or the merger of an English-medium institution with an Afrikaans-medium one (Department of Education 2004b). In other cases, it involved merely the incorporation of a department or a faculty from one institution into another. Only 4 institutions survived unchanged by the mergers.

During the same period leading up to the mergers, both historically White and historically Black institutions experienced a sudden rush on higher education from

⁴ Apartheid legislation classified South Africans into the racial groups "Black", "White", "Coloured" and "Indian". Coloured (mixed-race) people were considered neither Black nor White and have "occupied the space between polarized racial classifications for decades" (Anderson 2003)/

1990 to 1994, with historically Black universities expanding by 37% and their White counterparts by 8% (Jansen 2003). Whilst the student population increases stabilized somewhat after this period (growing only from 482,000 in 1993 to 510,000 in 2002), the number of Black (African) students escalated from 191,000 to 404,000 in the same period, thus increasing the heterogeneity of the student population, with students displaying a greater diversity of skills, knowledge and resources (Council on Higher Education 2010).

A study on throughput issues amongst university students comments "*Yet, in sharp contrast to increase in enrolment, there has been decrease in throughput. In 2005 the dropout rate stood at 50% of the total number of students enrolled nationally*" (Council on Higher Education 2010, p35). The study notes an HSRC study of the first-year students in higher education institutions in 2000, which states that 30% had dropped out in their first year of study, and a further 20% in their second year. The study also notes the Department of Education statistics that White students' throughput rate is better (84%) compared to that of Black students (70%) (Council on Higher Education 2010).

Higher education is funded in three ways – by the state, by student fees and by "third-stream" income. Overall, the proportion of income derived from state funding fell, with the percentage of the GDP allocated to universities falling from 0.7% to 0.48% (considerably lower than the African continent average of 0.8%) and the proportion derived from student fees increased (Council on Higher Education 2010).

In addition to these resource constraints, higher education has an additional pressure in terms of its use of ICTs as it is seen as central to developing an information society. Castells locates higher education as the "*engine of development in the new knowledge economy*" (Council for Higher Education Transformation 2006, p3), a position which has been reiterated in terms of African development by Kofi Annan (Bloom *et al.* 2006) and in South Africa's National Plan for Higher Education, which states that the sector has "*a critical and central role to play in contributing to the development of an information society in South Africa both in terms of skills development and research*" (Department of Education 2001, p5).

2.3.1 SA: THE INFORMATION SOCIETY AND EDUCATION

The idea that technology could drive some form of transformation began to gain prominence in the late 1990s. With a large majority of people unconnected, it is not surprising that the education sector (especially schools) has been an area of focus in terms of our government's information society policies. In 1997, the Technology Enhanced Learning Initiative (TELI) (James 2001) provided the first set of guidelines regarding the role of ICTs in education and argued for the integration of ICT into the teaching and learning environment. In 2001, the "Strategy for ICTs in Education" laid what was called *"the basis for an ICT revolution in our schools"* (Department of Education and Department of Communication 2001, p28), seeking to build on the provision of a universal telecommunications service and ISAD's identification of human resources as one of seven key areas for planning. The Strategy noted that the education system was *"severely stratified and dependent on personal wealth"* (Department of Education and Department of Communication 2001, p9) and if *"ICT is a solution looking for a problem to solve"*, then education and training have many that beg attention (Department of Education and Department of Communication 2001, p9). The Strategy set out a number of ambitious yet well intended outcomes, including basic connectivity, wired schools and educator development (Department of Education and Department of Communication 2001).

Following this, in 2003, the detailed "Draft White Paper on e-Education: Transforming Learning and Teaching through ICT" emerged (Department of Education 2003). In the foreword to the White Paper, the Minister of Education continues to espouse the government rhetoric about the role of ICTs in education *"Our world is changing, and information and communication technology (ICT) is central to this change. Digital media has revolutionized the information society. These advances in ICT have dramatically changed the learning and teaching process, and have expanded new learning opportunities and access to educational resources beyond those traditionally available"* (Department of Education 2003, Foreword).

Whilst access is still key (the White Paper notes that in 2002, only 26% of schools had a computer available for teaching and learning, with the disparity between provinces ranging from 4.5% to 56%), this policy paper starts to move beyond noting the divides that exist in terms of local content and the capacity of the workforce.

The White Paper notes the significance of e-education for the learner in application and production of knowledge for the real world; managing learning; promoting achievement for learners; and accessing information that increases knowledge (Department of Education 2003, point 2.19).

In the White Paper, the Minister of Education outlined the e-education policy goal as *"Every South African learner in the general and further education and training bands will be ICT capable (that is, use ICT confidently and creatively to help develop the skills and knowledge they need to achieve personal goals and to be full participants in the global community) by 2013"* (Department of Education 2003, point 2.23).

However, despite this willpower and the good intentions behind this strategy, computer penetration in schools has been remarkably slow. In 2005, schools were still largely lacking in computers. Data is contradictory depending on who is reporting but fundamentally, only 22% of schools nationally had computers available for teaching and learning (this differentiated from schools with computers that are largely used for administrative functions) (Farrell and Isaacs 2007). Disparities between "rich" and "poor" provinces were huge, with the Western Cape and Gauteng showing 76% and 78% penetration respectively (largely as a result of projects such as E-Schools network, which originated in the Western Cape in 1993 and Gauteng Online, established in 2002) compared to rural provinces like the Eastern Cape with only 7% penetration. Isaacs (2007) reports that less than 5% of schools can afford Internet connections. Aware that provision of infrastructure on its own wasn't enough, other centralized government initiatives were established, such as the Khanya project, which by 2006 had not only provided computers and networks to 613 schools but also basic IT training for educators. Isaacs (2007) lists some 16 fairly large-scale initiatives towards achieving the government's policy goal of every learner in primary and secondary school sectors being ICT capable by 2013. However, current data from the National Education Infrastructure Management Systems shows that with 67% of schools with no computers for teaching and learning (Department of Education 2007) and 77 % without a computer centre, this will be impossible to realize (Department of Basic Education 2009).

In addition, even where infrastructure exists, skills shortages amongst teachers have in some cases resulted in laboratories being vastly underutilized (Hlatshwayo 2008).

What does this mean in terms of ICT literacy? Well, a significant proportion of South African students arrive at university without having had direct experience of using ICTs at school, and even amongst those with some exposure, the degree to which they have acquired ICT literacy varies. In 2007, 18% of students had less than two years' experience using a computer when they entered university (Brown and Czerniewicz 2010). Only 42% stated they had learnt to use a computer through their school. Whilst data on where these students had been schooled wasn't collected, we can see that students who exhibit a home language other than English and from low socio-economic background were particularly disadvantaged (comprising 97% and 61% of this sub-group respectively) in terms of access to and experience of ICTs prior to university (Brown and Czerniewicz 2010).

The current strategy that is being rolled out to address the access and skills problem is the Teacher Laptop initiative, managed by the Education Labour Relations Council (ELRC). Launched in May 2009 (2009), the program was only recently rolled out in July 2010 (Department of Basic Education 2010b) amidst much skepticism of our government's ability to actually make this a reality (Van Wyk 2010).

2.3.1.1 ICT AND HIGHER EDUCATION

The lack of policy in relation to ICTs and higher education is noted by many (Cross and Adams 2007; Czerniewicz *et al.* 2006; Hodgkinson-Williams 2009), with one paper noting that *"while South Africa has gone a long way in adopting an exemplary approach to integration of ICTs in schools, it lacks a national policy framework concerning the role of ICTs in higher education"* (Cross and Adams 2007p, 74) and another noting that references to ICTs in higher education are ad hoc, limited and indirect (Czerniewicz *et al.* 2006).

This doesn't mean that there is no support for the role of ICTs in higher education – in fact, quite the contrary. Amongst the challenges facing higher education in a knowledge-driven world are human resource development through contribution in a rapidly changing society, the development of professional and knowledge workers with globally equivalent skills and a research and development system which integrates the needs of industry and social reconstruction (Department of Education and Department of Communication 2001). Higher education is therefore seen to have

a "*critical and central role to play in contributing to the development of an information society in South Africa*" (Department of Education and Department of Communication 2001, p5).

However, the national plan is vague in terms of how ICTs can contribute to these challenges, remarking only on their role in facilitating cost-effective distance education, assisting traditional universities in coming out of their ivory tower through the use of new technologies in knowledge generation and intellectual development, and taking advantage of the new opportunities to change the ways in which knowledge is produced, mediated and used (Department of Education and Department of Communication 2001).

At an institutional level, many higher education institutions do not yet have an institutional vision or strategy on the use of ICT (Cross and Adams 2007) and there is a great diversity in terms of policy statements in relation to ICTs amongst those that do (Moll, Adam, Backhouse and Mhlanga 2007). These range from formal stand-alone or related policies to strategies to draft policies. In a survey of 18 institutions in 2007, eight still had no institutional framework in relation to ICTs (Moll *et al.* 2007). In terms of emphasis, Cross and Adams (Cross and Adams 2007) note three main approaches: an IT-oriented approach, a distance education-oriented approach, and a research-driven ICT development approach.

Cross and Adams note that "*South African higher education institutions cannot as yet claim a paradigm shift in the policy choices, strategies and practices that underpin the use of ICTs*" (Cross and Adams 2007, p93). A paradigm shift would include changing teaching and learning practices and systemic change through ICT. Currently, South African ICT policy initiatives concerning higher education reflect a poor relationship between technology and issues of access, quality, production and cooperation.

The use of ICTs for teaching and learning in higher education in South Africa dates back to the mid-1980s, which were characterized by the use of Computer Aided Instruction (CAI) where the computer took on the role of tutor rather than tool. A useful overview of the evolution of computer-based teaching and learning in the Western Cape is provided by Czerniewicz and Brown (Czerniewicz and Brown 2006), who characterize the first decade of computers in higher education as the expansion

of computers and networks across institutions for individual staff use as well as into libraries. Stand-alone computers were the norm, multimedia was cutting edge. Student teaching laboratories were beginning to be established. Teaching and learning use of computers was fragmented and focused on tutorial-type activities with computers being used primarily as tutors rather than as tools (Czerniewicz and Brown 2006, p17).

By the mid-1990s, networked computers were becoming more the norm, email was becoming more mainstream and the World Wide Web was starting to make an impact. By the late 1990s, within the Western Cape, universities were starting to establish structures and facilities to support and encourage e-learning. In 2004, research was funded by the Carnegie Corporation as part of a larger cross-institutional project designed to improve understandings of quality and equity issues in educational technology in higher education in the Western Cape region (Brown and Czerniewicz 2006). At the time, whilst there was a sense that the use of ICTs for teaching and learning was increasing (all of the then six universities in the region had some kind of policy relevant to the use of ICTs in teaching and learning and had grown infrastructure to support this), there was no baseline from which to understand this shift. It was not known how students were accessing and using ICTs for learning and what the enabling and constraining factors were on their use (Brown and Czerniewicz 2006).

Studies on ICT use for teaching and learning conducted in South African Higher Education Institutions (HEIs) between 2004 and 2006 have noted that the most frequent ICT-related activities were for finding information and submitting word processed assignments (Czerniewicz and Brown 2005b; Hodgkinson-Williams and Mostert 2006; Louw, Brown, Muller and Soudien 2009). In 2004, 97% of Western Cape students surveyed indicated they use ICTs in some way for their studies, although the use was quite narrow and dominated primarily by finding information and writing assignments. In 2007, 99.5% of students indicated they used ICTs for their studies, although there was not much indication of any greater breadth of use. This shows that it is almost impossible for students to avoid using ICTs for their studies; however, the extent of use does not indicate anything about the quality of use.

Mobile phones are also becoming an increasingly important component of ICT access and use for university students. A South African study notes that in 2007, 98% of students indicated they had mobile phones (Czerniewicz, Williams and Brown 2009). In addition these were the primary means of Internet access off campus for 43% of students, particularly those from low socio-economic groups (presumably because despite the costs, this is the cheapest way to access the Internet in South Africa (Czerniewicz *et al.* 2009). The same study reports that even though institutions had not taken charge of the opportunities offered through mobile phones, students certainly had; as 80% indicated that they used their mobile phone in some way for academic purposes, with 40% of that group saying they did so often (Czerniewicz *et al.* 2009). The lack of institutional use of mobile technology was corroborated by the Brown, Thomas *et al.* study in a survey of 18 e-learning managers. Only two reported that podcasting and mobile learning technologies were being investigated or piloted in their institutions (Brown and Czerniewicz 2008; Brown *et al.* 2008).

Another topic which began to emerge in 2007 was Web 2.0, the essence of which is summed up neatly in a report for the Joint Information Systems Committee of the United Kingdom (JISC) investigating the emergence of this phenomena and its implications for higher education (Anderson 2007).

At the end of 2006, Time magazine's Person of the Year was 'You'. On the cover of the magazine, underneath the title of the award, was a picture of a PC with a mirror in place of the screen, reflecting not only the face of the reader, but also the general feeling that 2006 was the year of the Web – a new, improved, 'second version', 'user generated' Web. (Anderson 2007, p4)

The hype around Web 2.0 was quite significant with some people calling it the "rebirth of teaching and learning" (Batson 2009). Within a month during 2007, we saw dramatic increases in the use of social software with the South African Facebook network reaching the 100,000 mark (WebAddict 2007).

However, despite the hype in 2007, South African university students were infrequent users of Web 2.0 tools for learning activities. Brown and Czerniewicz (Brown and Czerniewicz 2008) noted that in 2007, only 14% and 13% of students respectively reported often sharing resources or working collaboratively online as part of a course. Keeping a blog or journal as part of a course was even less frequent (Brown and Czerniewicz 2008). These findings, which are also corroborated in international research, provide evidence that social software practices in educational settings are used less often than is commonly thought (JISC 2008; Kennedy, Dalgarno, Gray, Judd, Waycott, Bennett, Maton, Krause, Bishop, Chang and Churchward 2007; Salaway and Borreson 2007).

Overall, it has been noted that research findings on students' experiences of using ICTs for learning in higher education in South Africa are slowly increasing (Moll *et al.* 2007). However, Moll *et al.* comment that a principled national research agenda focused on the pedagogic integration of ICTs is needed as the question of continual marginalization of institutions and individuals previously disadvantaged by apartheid continues (Moll *et al.* 2007).

2.3.2 SA: INFORMATION SOCIETY AND THE WORKFORCE

Whether South African universities regard ICT skills as a necessary graduate attribute is immaterial because the South African government and the labor market regards these as imperative.

"ICT education, training, learning and competency are essential for the twenty first century. The future competitiveness and well being of the country will require the creation of a solid foundation for young people, for future learning and to acquire all of the skills that will be needed to succeed in the knowledge-based economy"
(Department of Trade and Industry 2000, np)

A recent report on ICT skills in the South African labor market noted the importance that ICT skills have been accorded in South Africa's national development through the Mbeki government's establishment of the Presidential National Commission and International Task Force described earlier (Akoojee, Arends and Roodt 2007). ICT

skills were seen to be an opportunity for young people to increase their employability. This, together with the opinion that "*employers across many national economies note that the necessary levels of ICT generalist skills are simply not available*" (Akoojee *et al.* 2007, p9) is the context in which students find themselves when entering university.

The ICT skills shortage is also noted as being wider than just the ICT industry in terms of specialists, including citizens, consumers and intended users of ICT products (Office of the Presidency 2008).

Ironically, despite this need, unemployment amongst graduates is not insignificant, with a 2006 study showing an increase to nearly 10% in 2005. One of the factors cited is the lack of soft skills amongst graduates (including interpersonal, communication and presentation skills (Office of the Presidency 2008, p20).

The political positioning, highlighted in the previous section, of ICTs as being good and necessary for global competitiveness and graduate employability has meant that the approach to ICTs is learning about them and not through them.

2.4 LOCAL LEVEL

2.4.1 LOCAL: STUDENTS (DEMOGRAPHICS, BACKGROUNDS ETC.), ACADEMICS

As mentioned in the introduction, the data for this thesis is drawn from a 2007 study about university students' access to and use of ICTs at university (Brown and Czerniewicz 2008; Czerniewicz and Brown 2009a). Details about this project are provided elsewhere but as it forms such a central part of the local context, some pertinent background will also be provided here.

The project was funded by the National Research Foundation and was an extension of previous research conducted in 2004 in the Western Cape region of South Africa (Czerniewicz and Brown 2006, 2009b).

Six tertiary institutions participated in the study. The project was conducted after the higher education mergers and, consequently, the sample comprised three traditional and three comprehensive universities of both English (three) and Afrikaans (three)

language mediums. The comprehensive university is a new type where university and former technikon-type programs have been integrated (Department of Education 2004a). Three institutions were from historically advantaged and two from historically disadvantaged backgrounds, with one institution a newly merged mix of the two. The institutions were also located across rural (two universities) and urban settings (four universities), see Table 2-3.

Table 2-3: Institutions from which the students in the 2007 survey were sampled

Institution	Province	Historical background	Language	e-learning policy (2007)	Type
WSU	Eastern Cape	Disadvantaged	English	No	Recently merged comprehensive
Fort Hare	Eastern Cape	Disadvantaged	English	No	Traditional
Wits	Gauteng	Advantaged	English	No	Traditional
UJ	Gauteng	Mixed	Afrikaans	Yes	Recently merged comprehensive
UFS	Free State	Advantaged	Afrikaans	Yes	Traditional
NWU	North West	Disadvantaged	Afrikaans	Yes	Recently merged comprehensive

Three of the six participating institutions had an unstructured approach to e-learning. In these, e-learning did not form any part of an institutional policy, there was no university-wide Learning Management System (LMS), nor was there a unit in existence supporting e-learning activities. The other three institutions had centralized and structured e-learning support services, established policies and had a university-wide learning management system available. This was unrelated to the institutional type.

In terms of how representative the respondents were of the national population of higher education students, they comprised slightly more undergraduates (89% in the sample compared to 81% in the population) and the same gender mix (55% females). As the sample was drawn from only four of South Africa's nine provinces, the home language mix of the sample was not as reflective of the national higher education population and had a larger Afrikaans component than the national average (24% compared to 14%) (Brown and Czerniewicz 2008), see Table 2-4.

Table 2-4: Comparison of national enrolment data with students from the 2007 study

	HEMIS (HEMIS 2007)	2007 student sample
Total undergrads	81%	89%
Male (prop of undergrads)	45%	45%
Female (prop of undergrads)	55%	55%
English	14%	16%
Afrikaans	14%	24%
African	62%	60%

It was noted that *"Very few students report that none of their courses use ICTs (9%), but over half report that very few or half of their courses do so"*. All but 20 students made use of ICTs in some way as part of their studies (Brown and Czerniewicz 2008, p5).

These findings demonstrate that ICT use for teaching and learning is certainly part of students' experiences. However, the extent of use varies, as does the degree to which it is embedded in formalized learning activities. As per previous studies, searching for information on the Internet as part of courses was still the most frequently-undertaken activity, which 55% of students report doing often. Brown and Czerniewicz (Brown and Czerniewicz 2008) conclude in their review of trends in students' use of ICTs in higher education that *"While ICTs for teaching and learning are very much a reality in the South African context, e-learning cannot yet be described as being entrenched in higher education courses, nor is there evidence*

that they are a ubiquitous part of students' everyday activities" (Brown and Czerniewicz 2008, p14).

This is confirmed in a review of recent research about the use of ICTs in higher education, where Brown, Thomas et al. (Brown and Czerniewicz 2008; 2008) note that whilst ICTs are being taken seriously for teaching and learning, a range of practices exist with regards to e-learning. Some institutions report very sophisticated use of university-wide learning management systems whilst others had a complete absence of technology for learning (Brown *et al.* 2008 ; Moll *et al.* 2007). The issue of the lack of common approach to e-learning in South Africa is raised with the authors, who ask *"Is it about standardised, consistent use of an LMS or innovative pockets of practice within courses? Is it institutionally, academically or student driven?"* (Brown and Czerniewicz 2008, p6).

Certainly, organizational approaches to e-learning and organizational culture do indeed play a role in ICT in institutions with a strong and structured approach to e-learning, which achieve a higher critical mass in terms of ICT use for teaching and learning (although the concern is that this may not facilitate innovation or variety of use) (Czerniewicz and Brown 2009a). However, policy is not necessary for activities on the ground to take place, and innovation and diversity of practice still occur, although the problem here is achieving critical mass and scalability in practice. There is also a danger of inequalities developing between courses and departments within the institution in a low policy environment. However, where there is no critical mass of use and sense of ownership or agency amongst staff is hampered by bureaucracy, change in terms of adoption of ICT practices is hindered (Brown and Czerniewicz 2009).

One of the key issues that impacts on ICT use is inequality of access, particularly for students from a low socio-economic group who spoke English as a second language (Czerniewicz and Brown 2009b). Czerniewicz and Brown note that *"Sixty three per cent of students from low socio-economic backgrounds indicated that they had below-average ease and adequacy of access to computers off campus, compared to 49% of students from high socio-economic backgrounds"* (Czerniewicz and Brown 2009b, p66). Further, *"students who spoke English as a first home language had much more access to a computer off campus than those who spoke English as a*

second language; 31% of English second language speakers had no access to a computer off campus compared to only 10% of English first language speakers" (Czerniewicz and Brown 2009b, p66). This pattern had flow-on effects with students in these demographic groupings, also being less confident in terms of their computer ability and having access to fewer supportive social structures in terms of using ICTs at university (Czerniewicz and Brown 2009b). This is not unique to South Africa as findings from elsewhere show that amongst youth globally, access is concentrated in the middle/high socio-economic groups (World Bank 2007) and that people who suffer social disadvantage are much more likely to be disengaged from ICTs than the socially advantaged (Helsper 2008).

Brown and Czerniewicz have noted how within South Africa, this has resulted in a group of students entering university who are *"outsiders to the digital world as it is commonly conceptualized and have termed the group 'digital strangers'"* (Brown and Czerniewicz 2010, p363). They note how these mirror existing lines of social inclusion as this group is comprised more of women from low socio-economic groups who speak a South African language of African origin as their home language, and how this group of students are conscious of their *"outsider status"* (Brown and Czerniewicz 2010). They caution against uncritical adoption of the concept as espoused Prensky of young students as "digital natives" (Brown and Czerniewicz 2010) noting that in the South African context, these types of technologically immersed and savvy youth are in the minority and represent an elite rather than a majority (Czerniewicz and Brown 2010).

2.4.2 SUMMARY

The South African official rhetoric around the role of ICTs for development and education can be described as strongly optimistic and even (to use Pejout's term) utopian. Infrastructural constraints are evident and access remains disparate between demographic groups. Policy about ICTs in higher education or e-learning is lacking; however, despite these constraints, ICT use for teaching and learning within the higher education sector is very much a reality even though use is still quite narrow and confined to familiar applications, such as word processing and Internet searching.

"Infrastructure and access is obviously an issue for e-learning in South African HEIs. Issues related to resources (e.g. cost, bandwidth) are mentioned by many as a barrier and certainly limit e-learning practice" (Brown *et al.* 2008 , p75). However, despite these constraints, opportunities are evident, such as thinking of different ways in which students can work together to counter access disparities; exploring mobile technologies, as mobile phone access is pervasive; using familiar technologies like the Internet to counter the paucity of African language content; and developing alternative means of student support with the existing educational development domain (Czerniewicz and Brown 2010; Czerniewicz, Williams and Brown 2008)

3 THEORETICAL APPROACH

3.1 INTRODUCTION

This research adopts a critical theory epistemology in order to understand how South African students construct the meaning about the role of ICTs in their lives. This approach has been productive in IS in other contexts, such as examining policy discourse in developing countries (Stahl 2008a), the diverse social settings of IS innovation (Avgerou and Madon 2004) and looking at gender issues in IS research (Trauth, Kvasny and Greenhill 2007). My research draws on CDA as a theoretical and analytical device to examine South African students' language about technology, its meaning and its purpose and use in education. CDA has a tradition within IS that involves both Habermasian and Faircloughian approaches. I draw on particular concepts upheld by theorists Norman Fairclough and James Paul Gee as analytical tools which enable me to focus on the key concepts of meaning, identity, context and power within the texts under study.

3.2 PARADIGM / EPISTEMOLOGY

This thesis adopts a critical approach to the study of university students' engagement with technology. Critical theory, along with interpretivism and positivism are the three paradigms that inform IS research (Hirschheim and Klein 2003). Studies of paradigmatic and methodological progress within IS have noted that research within the discipline is dominated by positivistic approaches. Interpretive approaches only began to emerge post-1991 and critical approaches, which are the newest paradigm to emerge in the IS field, have been noted as "*not yet well established*" (Chen and Hirschheim 2004, p 201).

However, despite the small presence of critical research throughout the 1990s, its use has been noted as consistent (Richardson and Robinson 2007). Similar conclusions were drawn by the editors of the Information Systems Journal in their reflection of 17 years of establishment. Although the journal is largely interpretative

(due to a concerted effort on the editors' behalf) it still contains a few papers of critical orientation (Avison, Dwivedi, Fitzgerald and Powell 2008).

Whilst the three paradigms are often contrasted with each other, as the premises which underpin them are quite fundamentally different, interpretive and critical paradigms are not dissimilar when compared to positivism (Chen and Hirschheim 2004). Whereas positivism aims to explain and predict social life, interpretive and critical paradigms seek to understand or investigate a phenomena by understanding and describing the social reality (Cecez-Kecmanovic 2005).

However, the differences between the latter two paradigms lie in the level to which the researcher seeks to "unpack" the phenomena. In interpretive IS research, the intention is to understand experiences through the meanings that people ascribe to them. In other words, it is based on the belief that the same object (physical artefact, institution or human action) can have different meanings to different people (Doolin and McLeod 2005) and that although IS has a physical component, that object has been designed and used by people operating in complex social contexts.

Thus in terms of the purpose of IS research, interpretivists are trying to understand the information system within a social context. They study not only behavior but seek to understand people's feelings, values, norms, interests, motivations and actions in terms of IS.

Although this does not exclude critical IS research, the critical IS researcher goes further in terms of purpose so as to expose conflicts, contradictions and hidden structures, and to create knowledge as a catalyst for change. It is based on a belief in the power of knowledge and its capacity to enlighten and engender change (Doolin and McLeod 2005).

Interpretive and critical research are positioned as two separate paradigms, where interpretive research is "*content to predict or explain the status quo*", the critical perspective is concerned with critically evaluating and transforming the social reality under investigation (Orlikowski and Baroudi 1991, p19). However, some IS researchers do not see these paradigms as mutually exclusive.

For example an "amalgamated" paradigm called critical interpretative research has emerged in response to what interpretive researchers felt were shortcomings with critical theory (i.e. little research methods literature (Pozzebon 2004), and a tendency more towards the conceptual than the empirical (Doolin and McLeod 2005) as well as shortcomings in the interpretivist research (which has been cited as lacking a critical and reflective stance (Pozzebon 2004) and being in danger of becoming *"preoccupied with exhaustive and comprehensive description in attempts to provide authoritative and definitive accounts of empirical reality"* (Doolin and McLeod 2005, p247).

Thus critical interpretative research has been posited as a way of lending or strengthening critical theory with empirical knowledge of organizational activity (Doolin and McLeod 2005) and strengthening interpretivism by focusing more explicitly on the dynamics of power, knowledge and ideology that surround social practice (Pozzebon 2004). It is thus posited as focusing on the strengths of both the critical and interpretative paradigms and thereby involving detailed, locally-situated, empirical research that reveals and disrupts the status quo and considers issues of power and control.

Critical theory research has quite a broad range of epistemological/ontological positions that fall under the ambit of critical theory, ranging from the Frankfurt school of Habermas, Adorno and Horkheimer, to the actor-network theory of Latour, to Marxism, to Bourdieu, to Foucault and Heidegger (Howcroft and Trauth 2005). In terms of its application within IS, critical research was initially informed by the Frankfurt school (Howcroft and Trauth 2005). IS has a legacy of Habermasian critical social theory, with Giddens being the only social theorist used more frequently within IS than Habermas. (Klein and Huynh 2004).

Fairclough (one of the main proponents of CDA) notes that the term "critical theory" can be used in a generic sense for any theory concerned with the critique of ideology and the effects of domination and not specifically for the critical theory of the Frankfurt school (Fairclough 1995).

A smaller group of IS researchers are also drawing on Foucault in their critical investigations. For example both Doolin and Alvarez draw on an understanding of

power influenced by Foucault in studies of the implementation of IS in the public health sector in new Zealand (Doolin 2009) and a University in the United States (Alvarez 2008). Stahl et al. draw on Foucault to investigate the micro level of organizational practice in the use of ICTs in Egypt (Stahl, McBride and Elbeltagi 2005).

3.2.1 COMMON THEMES

Whilst "*critical IS research is characterized by diversity in topics, objectives, methods and philosophical roots*", it does have certain basic assumptions (Cecez-Kecmanovic 2005, p20). In describing these, many authors have drawn on Alvesson and Deetz's three concerns, namely insight, critique and transformative redefinitions (Cecez-Kecmanovic 2005; Howcroft and Trauth 2005; McGrath 2005).

In terms of insight, like interpretivists, critical researchers believe IS is comprised of social systems that are technologically realized (Cecez-Kecmanovic 2005). However, they reject the interpretivist focus on the individual and believe that, whilst experiences by an individual occur in a historical and cultural context, this together shapes people's "*social relations, their understanding and attitudes towards information systems and their future choices*" (Cecez-Kecmanovic 2005, p20). As Howcroft and Trauth put it, "*the lens shifts from an exclusive focus on individuals, systems and meanings to the system of relations which make such meanings possible*" (Howcroft and Trauth 2004, p204).

Critique is another underlying assumption of the approach, particularly technologically deterministic ways of viewing the world, such as globalization and information society (i.e. ones that prioritize and validate technology above other things) (McGrath 2005). Critical theory also involves a critique of tradition in that it seeks to disrupt rather than reproduce the status quo. IS researchers would also like to add their opposition to the ideas of progress that are associated with technological development (Howcroft and Trauth 2005). These ideas disrupt the notion of technology as being a necessary and good tool for societal change (e.g. a way out of poverty). Critical researchers focus neither on the effectiveness of ICTs nor the wish

to improve technological practices per se, but rather a conceptualization of adoption and use within the broader social and economic changes.

As McGrath says, the challenge is not to just cast hermeneutics of suspicion on behaviors but to problematize these (2005). This critical theory "speak" fundamentally means to interpret texts cautiously, aware that the surface-level meaning of a text may be an effort to conceal the political interests and, rather than take the situation for granted, pose that knowledge as a problem, allowing new ideas and actions to emerge. As such, the critique is not the common sense meaning of negatively evaluating an object (and by that I mean something tangible or intangible) but rather a process which excavates below the surface and poses questions about the layers enveloping the object; thus exposing its weaknesses and seeking to understand why and how the object came to be concealed, offering this knowledge so that it may inform change.

In terms of transformation, critical research goes beyond that of interpretivism in not just seeking to understand reality but creating knowledge as a catalyst for change and giving voice to various marginalized IS user groups. In critical theory, this is called emancipation and it is seen as *"a process of critical self reflection and struggle where people can become freed from diverse forms of domination"* (Alvesson and Willmott 1998, p159). The emancipatory view has been specifically associated with Habermas (McGrath 2005), whose theory of communicative action is intended to lead to emancipation from oppressive conditions because it enables all participants to express their views without distortion. There has been some criticism of this as the liberatory purpose has been deemed to be a product of a particular space and time, as these optimistic ideals were a response from theorists fleeing the Nazi regime to the USA (McGrath 2005). However, as Cecez-Kecmanovic notes, critical researchers believe that even if only partially achieved, this is a worthy pursuit (2005). Howcroft and Trauth note a less rigid intention of emancipation as focusing on oppositions, conflicts and contradictions in society, and to be emancipatory in the sense of helping to eliminate the causes of alienation and domination (2005, p3). Part of the emancipatory implications of Critical Research in Information Systems (CRIS) is in how the researcher exposes the dominant discourse and how this legitimizes particular representation and information structures. This is analogous with critical

researchers' values which are to advocate for social change and examine whose values are represented (particularly in regards to IS) and whose interests are being served.

Reflexivity is a process that is highlighted as a key methodological distinction between critical and mainstream IS research. It provides reflections of the role of the researcher as the producer of knowledge.

3.3 CRITICAL DISCOURSE ANALYSIS

In this thesis, I utilize CDA as a theoretical framing to enact the critical theory paradigm which underpins this research. During the 1960s, the term "discourse" began to take on philosophical and theoretical meanings (Mills 2004). In trying to provide an all-encapsulating summary of the theoretical conception of discourse, van Dijk (1997) notes that it goes beyond who uses the language to include the how, why and when. Underpinning this is a communicative event which observes that when people use language to communicate ideas, beliefs or emotions, they do it as part of a more complex social event, i.e. within a context; and therefore, the three main dimensions of discourse analysis are language use, communication of beliefs and interaction in social situations (Van Dijk 1997).

Critical approaches to discourse analysis first began to emerge as a cohesive paradigm in the early 1990s (Billig 2003; Wodak and Meyer 2001) with the coming together of a network of scholars in Amsterdam (Van Dijk 2001); the launch of the journal *Discourse and Society*; and the "rise to fame" of various seminal CDA books, such as *Language and Power* (Fairclough 2001) and *Language, Power and Ideology* (Wodak 1989). Billig notes the change from Fairclough's discussion of critical approaches (in the plural) in his 1992 *Discourse and Social Change* to the use of the definite article in his book *Critical Discourse Analysis* in 1995, which seemed to signal the recognition of a Critical Discourse Analysis (or CDA) which is used to refer particularly to Fairclough's brand of discourse analysis which is strongly rooted in Hallidayan Systematic Functional Linguistics (Billig 2003).

CDA (as opposed to other types of discourse analysis) regards "*language as social practice*" and has been described as "*at most a shared perspective on doing*

linguistic, semiotic and discourse analysis" (Van Dijk 1993, p131) due to the *"heterogeneity of methodological and theoretical approaches represented in this field of linguistics"* (Van Dijk 2001, p2). Its roots lie in *"classical rhetoric, text linguistics and sociolinguistics as well as in applied linguistics and pragmatics"*, and it still has a huge continuity with critical linguistics (Van Dijk 2001, p3). Consequently van Dijk prefers the term Critical Discourse Studies (CDS) as he believes this more general terms better signifies an approach rather than a method and places the emphasis on the *"critical perspective, position or attitude"* (van Dijk 2009, p 62) rather than limiting its scholarly activities to the analysis of text and talk. However despite this useful distinction the term Critical Discourse Analysis is firmly embedded in the discipline as evidence by the extent to which the term is systematically used in either its full or acronym form (Wodak and Meyer 2009).

What distinguishes CDA from other socio-linguistic approaches relates primarily to the problem under investigation. Myers sums it up as *"it endeavors to make explicit power relationships which are frequently hidden and thereby to derive results which are of practical relevance"* (Myers 2002, p15). Because one of the central tenets of CDA is that discourses cannot be understood without reference to context, it draws on extra-linguistic factors in its research approach (Myers 2002), particularly social processes and structures (Wodak and Meyer 2001).

CDA emerged at a time of growth in critical paradigms in other disciplines, such as critical anthropology and critical psychology (Billig 2003). Billig notes that *"In this context, the term 'critical' can be seen to mark out a specific genre of academic studies"* (Billig 2003, p37). Whilst most critical discourse analysts do not tend to position themselves directly with philosophers from the critical theory school, such as Kant and Popper, there are two philosophers who have had a strong influence on the development of CDA, namely Foucault and Habermas (Weiss and Wodak 2003).

However, even though CDA does not have a specific association with a single critical theorist, it does share the concerns and agenda of critical theorists in that it argues that language is always *"part and parcel of, and partially constitutive of, specific social practices and the social practices always have implications for inherently political things like status, solidarity, the distribution of social goods and power"* (Gee

2004, p23). Gee notes that when discourse analysis combines a model or grammar or textual analysis (of some kind) with socio-political and critical theories of society and its institutions, it becomes critical. Critical approaches always examine the implications of status, power, distribution of social goods and solidarity.

3.3.1 CDA AND THEORY

Whilst there is no such thing as a uniform, common theory formation determining CDA (Weiss and Wodak 2003), CDA has been criticized as not using theory consistently, or moving from theory to the field of discourse back to theory in a standard manner (Myers 2002). This "indiscriminate mixing" leads to inconsistencies that become even more acute when under the influence of grand theorists like Bourdieu and Giddens. However, it can also be argued that the plurality of theory in CDA is a positive phenomenon to which this research discipline owes its dynamics. The mediation between the social and linguistic levels of texts is highly relevant to the theory formation process of CDA, but no such uniform basis for reconciling these two aspects has been created in CDA to date (Weiss and Wodak 2003).

Weiss and Wodak therefore recommend a number of steps in order to develop an integrated theoretical framework (Weiss and Wodak 2003). Clarification of the theoretical assumptions regarding text, discourse, language, action, social structure, institution and society should be done preceding analysis. This creates the framework for analytical operationalization. When using CDA, it is not about what grand theory is needed but rather which conceptual tools are relevant to solve which problem in which context. This makes the context of the discursive practice very important.

This requires the development of conceptual tools that are "*capable of connecting the level of text or discourse analysis with sociological positions on institutions, actions and social structures*" (Weiss and Wodak 2003, p8). These conceptual tools are analytical interfaces that allow connection between the linguistics and the sociological. They do not represent a "*self contained edifice of theories*" (Weiss and Wodak 2003, p8) but rather an integrated theoretical framework; and mediate between "*text and institution, communication and structure and discourse and*

society" (Weiss and Wodak 2003, p9). Analytical concepts define the object of the research; that is, the question and content to be the subject of study, i.e. identity, discrimination, power etc. Weiss and Wodak note that analytical categories are linked very closely to categories constructed by players during conversations (Weiss and Wodak 2003).

The notion of discourse offers us possibilities for engaging critically with language and meaning located in the context of use (the speakers and their intentions in wider social, cultural and political worlds). The CDA viewpoint is likened to Giddens "*duality of structure*" and Bourdieu's "*structured and structuring structures*" – as social systems and societies are not viewed as self contained entities (Weiss and Wodak 2003).

3.3.2 COMMON THEMES

Whilst CDA has been noted as having a heterogeneity of methodological and theoretical approaches, cornerstones to the approach have been described as discourse, ideology and power (Weiss and Wodak 2003; Wodak and Meyer 2001).

Whilst the term discourse is used differently by researchers, all share the perspective that language use in speech and writing is a form of social practice (Fairclough 2009) and that discursive practices – the process through which texts are produced (created) and consumed (received and interpreted) – are an important form of social practice which contribute to the constitutions of the social world (including identities and relations) (Pennycook 2001).

Language is not viewed as powerful on its own but is seen to gain power by the use people make of it (Weiss and Wodak 2003). Discursive practices contribute to unequal power relations between social groups, e.g. class and gender, which have ideological effects. The research focus of CDA is therefore on the discursive practices which construct representations of the world, social subjects and social relations (including power); and the role these have in furthering the interests of particular social groups (Fairclough 2001; Pennycook 2001; Wodak and Meyer 2001).

3.3.3 DIFFERENCES / POINTS OF CONTENTION

One of the main criticisms leveled at CDA from "outside" the field is that it is an ideological interpretation and not an analysis. This is perhaps one of the reasons van Dijk (2009) prefers to refer to Critical Discourse Studies (CDS) as the wording advocates an approach rather than a method of analysis. Yet even with acceptance of its ideological approach, CDA has been criticized particularly for being prejudiced in favor of a particular ideological commitment (i.e. the uncovering of power imbalances and hidden meanings) and selecting texts that support this preferred interpretation (Myers 2002).

The main response to this has been that CDA is transparent about its positions and commitments and does not hide this bias (Myers 2002). CDA is not politically neutral but is committed to social change and takes the side of oppressed social groups (Jorgenson and Phillips 2002). In this, Van Dijk notes that it is biased scholarship and is proud of it (Van Dijk 2001). He also notes that biased scholarship is not necessarily bad scholarship if based on rigorous scholarship with explicit and systematic methods that are empirically grounded. However criticism has also been leveled at CDA for its selection of texts which support its ideological positioning (Wodak and Meyer 2009) and the best rejoinder on the part of CDA researchers would be to make the analytical processes more transparent (Weiss and Wodak 2003).

The conflation of discourse and ideology has been tackled head on by Pennycook, who also takes issue with the way the real world is confused with ideology in CDA and consequently adopts a more explicitly Foucauldian position on discourse that separates discourse and ideology, suggesting that the latter determines the former (Pennycook 2001). Discourses are about the creation and limitation of possibilities; they are systems of power and knowledge within which we take up subject positions. A Foucauldian analysis is not concerned with how discourses (texts) reflect social reality but how they produce social reality (Pennycook 2001).

Critical discourse researchers also openly acknowledge the diversity of theoretical and methodological approaches, publishing books which explore explicitly the multi-disciplinary range of both (Weiss and Wodak 2003; Wodak and Meyer 2001).

Critical discourse researchers are not shy of self criticism or reflection. Billig raises the issue of subjecting the field of CDA to its own critique in an endeavor to be reflexively self critical and to be aware that CDA must necessarily occur within an academic context of power and economic relations. Billig notes that academics themselves replicate power imbalances through the process of teaching, grading and passing or failing students (Billig 2003). He continues to challenge critical discourse analysts not to fall into the trap of instantiating those features of discourse which they regard as problematic in their own writing (Billig 2008). Wodak and Meyer have acknowledged that critical discourse analysts need to be cognisant that in uncovering hidden meanings and writing about the phenomena that we don't then begin to take their existence for granted and believe we have solved the problem (2009).

3.3.4 WAYS CDA HAS BEEN USED IN LINGUISTICS, EDUCATION AND IS

Whilst Critical Theory approaches are starting to take a modest but firm hold within IS, CDA is still in its infancy (Alvarez 2005). Specifically, discourse analysis plays a role in understanding people's interaction with ICTs. Discourse analysis can aid in interpreting the hidden meaning about ICTs, in understanding what ICTs are and how they can be used, and how different interpretations affect use (Stahl 2004).

Discourse analysis becomes critical when it seeks to analyze power relationships in society and it is often used in IS to criticize the status quo (particularly exclusion), for example the digital divide (Kvasny and Trauth 2002). The dominant approach in IS is perhaps more aptly described as a critical analysis of discourse, as it draws directly on critical theorists (usually Habermas, but to some extent Foucault) and does not form part of the more linguistically-oriented field of CDA, as described in the previous section.

Two researchers who are key in operationalizing the Habermasian approach to analysis within IS are Cukier (Cukier, Bauer and Middleton 2004; Cukier, Ngwenyama, Bauer and Middleton 2009) and Stahl (Stahl 2004, 2008a). Cukier and her colleagues have developed an approach to CDA drawing explicitly on Habermas' validity claims. They present an analysis of media discourses around a Canadian technology project called the Acadia Advantage (AA) (Cukier *et al.* 2004; Cukier *et al.* 2009). They used critical hermeneutics and content analysis to analyze a large corpus comprising 173 media texts. They focused largely on the content of the articles, i.e. statements about the advantages and disadvantages of the technology. They also looked at some of the language being used, i.e. adjectives and metaphors, to describe the project. They examined references to people outside of the text itself (intertextuality in Fairclough's terms) as well as the type of language or jargon used (genre in Fairclough terms). They also examined the empirical analysis in terms of Habermas' four validity claims, i.e. truth, legitimacy, comprehensibility and sincerity. They found the discourse around this project to be distorted and influenced by powerful players, such as suppliers and university administration.

Stahl and his colleagues (Stahl *et al.* 2005) used the Habermasian Discourse Analysis to identify contradictions between rhetoric and reality in Egyptian ICT policy. They drew on Cukier's pioneering method of operationalizing Habermas' validity claims. Drawing on questions posed by Cukier, the frequency of each validity claim was noted. They then used Foucault's theory at a micro level to explore the empowering effect of ICTs at the organizational level by looking at a particularly widely-used application, the Decision Support System. They demonstrated that, whilst the rhetoric is one of empowerment, the reality showed that for whatever reason these were not followed through.

This approach has been applied in the South African context (Chigona and Chigona 2008; Chigona, Mjali and Denzl 2007). In the first study, the authors analyzed 24 articles over a two-year period to determine the media discourse about a popular South African mobile instant messaging system, MXit. They utilized the guiding questions of Cukier and Stahl as a means of analyzing the corpus of media texts. The analysis showed that the media discourse was highly distorted and that amongst the voices of the educators, parents, MXit management and even politicians, the

voices of the youth using the technology were conspicuously absent. The authors likened parents' concerns to a sign of moral panic and their sense of loss of control over their children's activities. The second paper utilized the same theoretical and methodological approach. Here they sought to investigate the South African government's views on the role of ICTs in national development. They analyzed 18 speeches from ministries related to ICT and peripheral ministries. The conclusion they come to was that whilst the government does show a lot of technological optimism, it is not devoid of human development concerns. There are strong links across all levels of government in terms of what they say, and there are signs of influence by global trends and a commitment to globalization.

The level of focus of these Habermasian Critical analyses of discourse is quite macro focused at the societal level of government (Chigona *et al.* 2007; Stahl *et al.* 2005) or media (Chigona and Chigona 2008; Cukier *et al.* 2009). All focus on the "event" under scrutiny and how it is represented in a public arena of media reports or speeches. Whilst background is provided to the corpus under analysis, the inquiry is really related to the here and now, and is not contextualized historically. As Stahl notes, Habermasian methodology focuses more at the macro level of greater social structures whereas Foucault theories lend themselves to more micro-level analysis because of Foucault's interest in the individual (Stahl *et al.* 2005). Stahl *et al.* tried to balance this perceived weakness by drawing on a Foucauldian lens to explore the empowering effect of ICTs on the organizational level, and were able to show that the rhetoric and reality were mismatched.

The other main approach to CDA within IS draws more directly on the CDA "school", particularly, the concept of discursive practices and genres. Thompson sought to "*draw attention to ICT's dual roles as both medium and subject of discursive power relations*" (Thompson 2004, p1), and to demonstrate to IS researchers the usefulness of an adapted form of Fairclough's CDA. In order to do this, he analyzed a single speech given by the President of the World Bank Group in 2000 (Thompson 2004). Thompson selected an order of discourse (namely "development") and looked for an identifiable configuration of "discursive practices", idioms, references, inferences or phrases. He then distinguished between the speech genres which can apply across various orders of discourse, and the discursive types of themes which

apply only within a particular order of discourse. Using a semi-grounded approach, Thompson organized the data according to concepts and then identified recurrent devices or themes. These were then reduced into six higher-level concepts or discursive types. Conscious of the subjectivity of this process, Thompson has explicitly linked his interpretations to the source's text so as to enable the reader to make independent judgments concerning the analysis. Thompson's approach to CDA was drawn upon by South African researchers in their analysis of South African government officials' speeches about ICT development in Africa (Roode, Speight, Pollock and Webber 2004). They analyzed three speeches made in 2002 and utilized the same speech genre and discursive types as Thompson. The clear technocentric approach enabled a further discussion and reflection on the socio-techno divide manifest at the societal level in South Africa.

Ng'ambi (2008) utilized the same approach to CDA, but in a completely different context, namely that of artefacts (text messages) from an anonymous knowledge-sharing environment. Ng'ambi used the texts to provide insight into the social practices of the community in which the students were located. It helped him to understand the assumptions of the traditional practices of institutions and the practicalities experienced by the students. In addition to redefining Thompson's discursive types in terms of the context of his study, Ng'ambi identified a further two new text genres namely panic and apologetic.

Alvarez has examined the realm of CDA in the Information Systems field. In describing the "linguistic turn" she has observed in IS research, she provides a useful overview of the range of approaches IS researchers have taken to the study of language (Alvarez 2005). Alvarez describes how researchers are starting to look at speech acts to grasp the meanings of everyday conversations about IS genres to examine socially constructed meaning attached to different forms of communication and, more directly, discourse analysis, which adopts a hermeneutic view to technology implementation and use.

Alvarez's personal approach is linked more directly with that of the CDA "school" and she draws on linguistic features proposed by van Dijk as her analytical tools. Specifically, Alvarez has used a variety of linguistic analytical strategies of including

narrative analysis and rhetorical figures of speech in various ways (Alvarez 2008). In the longitudinal investigation of the relationship between Enterprise Systems, organizational structures and identity, Alvarez undertakes a linguistic analysis of three dominant themes that emerge from the data, namely loss of control, arbiter of fairness and acts of resistance. She shows how before adoption there was overwhelming support for a new system with favorable characteristics ascribed to it. However, once implemented these characteristics caused shifts in power balance, resulting in loss of autonomy. The rules and routines inscribed within the system limited the way individuals undertook their work and caused a shift in professional identity. This in turn generated resistance and resulted in staff finding alternative "workarounds", enabling them to reshape and, in some cases, re-established their identity. The study was successful in uncovering the hidden aspects of power relations during the ES implementation, exposing both the intolerable consequences of the power shift as well as the new possibilities enabled by the resistance.

3.4 APPLICATION OF THEORY TO RESEARCH

3.4.1 MANY DIFFERENT CRITICAL DISCOURSE ANALYSIS THEORISTS

One of the strengths of CDA is that it is multidisciplinary and essentially diverse (Van Dijk 2001). In fact, Van Dijk, who is one of its original proponents, says that good CDA scholarship seldom follows just one person or one approach but is enriched through the integration of the "*best work of many people, famous or not, from different disciplines, countries, cultures and directions of research*" (Van Dijk 2001, p 95). In providing a background to the field of CDA, I have drawn on the work of many different CDA researchers who have been integral in framing CDA as it is perceived today. However, I have found two CDA researchers particularly useful in my research, namely Norman Fairclough and James Paul Gee. As Gee notes, the linguistic bases of their two approaches, whilst different, are not incompatible (Gee 2004). Gee does, however, draw a distinction between the two approaches, saying he associates the abbreviation – CDA – with Fairclough's approach to discourse

analysis whereas the term (spelled out) – critical discourse analysis – he associates with a wider array of approaches, including Fairclough's, his own and others.

In developing my theoretical and analytical approaches, I have consciously drawn significantly on both Gee and Fairclough's pre 2005 works as these books are the most decisive in shaping these two theorists' approaches and detailing their methodological approaches

3.4.2 GEE

James Paul Gee's work arises from what he calls an "*American non-Hallidayian model of grammatical and textual analysis*" (Gee 2004, p20). It has been largely situated in the movement of New Literacy Studies (NLS) which is based around the "*idea that reading, writing and meaning are always situated within specific social practices within specific discourses (Discourses)*" (Gee 1999, p8). Operating from this educational context, Gee's work has focused on language and literacy acquisition as a form of socialization both for in schools (Gee 1994) and, more recently, in terms of literacy, learning and gaming (Gee 2003). His premise is that "*literacy in and of itself leads to no higher order, global cognitive skills*" (Gee 1994), but that literacy acquisition is a form of socialization into a mainstream way of taking meanings, of making sense of experiences and that as students participate in different literacy practices, they begin to partake of this set of values and norms, of this world view.

Drawing from his linguistic background, Gee describes two types of ways meanings are interpreted in texts.

- Utterance type meaning (which is a general meaning for a word/phrase – not situation specific), whose task looks at the forms of the language words, phrases, sentences and the meaning or communicative purpose this form carries with it.
- Utterance token meaning or situated meaning that examines how in different situations of use, texts take on a range of more specific meanings. A task that analyzes texts in this way involves discovering the situation specific or situated meaning of forms used in specific contexts of use.

Gee then takes this further in what he describes as CDA by associating these different types of meanings with social practices. For Gee, social practices are inherently political because they involve roles and responsibilities that have implications for social goods (Gee 2005).

Since "social practices set up roles or positions within which people become 'insiders', 'outsiders' or 'marginal' with respect to the social groups whose practices these are, it follows that social practices create what we can call socially situated identities" (Gee 2004).

This leads to Gee's notion of D(d)iscourse (Gee 1996). Gee's concept of big D Discourse encompasses more than just the use of language (what he refers to as little d discourse); it includes ways of being (thinking, acting and interacting) (Gee 2005) that take on socially meaningful identities in various situations or contexts.

When "little d" discourse (language-in-use) is melded integrally with non language "stuff" to enact specific identities and activities, then I say that "big D" Discourses are involved. ... When you "pull off" being a culturally specific sort of "everyday" person, a "regular" at a local bar, a certain type of African-American or Greek-Australian, a certain type of cutting edge particle physicist or teenage heavy metal enthusiast, a teacher or a student of a certain sort, or any of a great many other "ways of being in the world" you use language and "other stuff" [ways of acting interacting, feeling, believing, valuing and using various sorts of objects, symbols, tools and technologies - to recognise yourself and others as meaning and meaningful in certain ways. (Gee 2005, p7)

Gee notes that discourses, as he understands them, have been given many different names by different people including communities of practice, practices and activity systems. Yet for him, one of the crucial questions we need to ask about identity is what institutions or groups of people work to construct and sustain a given discourse at the macro level.

One of Gee's research foci has been on the disjuncture between home and school literacies. The mismatch between the way school children use words at home or in their communities and the schools' academic way with words. Gee uses his notion of socially-situated identity to ask questions about people's identities and the relationship and intersection between them. In doing this, he draws on the phrase *"coordinate and being coordinated by"*, in stressing that *"people in action, interaction, and dialogue are both agents (actively coordinating other people, objects, environments, etc.) and patients (letting themselves be coordinated not only by other people, but by objects and environments and other non-human things)"* (Gee online, p 9). In using an example of a young girl participating in a story-telling session in class, Gee talks about the different kinds of discourses that a person can have and how primary "lifeworld" discourses intersect with secondary "public sphere" discourses and the role of the school in mediating the transition between the two. Gee uses popular culture card and video games as an example to demonstrate how children are using far more complex and specialist language to successfully play and engage in popular culture activities. Gee then asks the question *"what is it that makes this possible at the level of popular culture but not at school?"*, concluding that *"the relationship between language and meaning (where meaning here is the rules and the actions connected to them) is clear and lucid"* (Gee online) and that once people have *"played the game"* they have a situated understanding of words and can associate them with images, experiences, actions and dialogues, i.e. a discourse.

Gee concludes that *"So in regard to children and academic language we face a paradox: what is hard in school isn't outside it. It is not language that is making the difference here. It is Discourses. The Discourse of Japanese manga game "Yu-Gi-Oh" places complex specialist language inside an enticing identity and a set of lucid practices that situate meaning in images, actions, goals, experiences, and dialogue"* (Gee online).

3.4.3 FAIRCLOUGH

Fairclough is regarded as one of the grandfathers of CDA, with his landmark publication *Language and Power*, first published in 1989, seen as starting CDA as a

field in its own right (Blommaert 2005; Myers 2002; Van Dijk 1997; Weiss and Wodak 2003). Fairclough approaches CDA from a background of Hallidayian Systematic Functional Linguistics, whose linguistic characteristics he utilizes for analyzing the relations between discourse and social meanings (Blommaert 2005).

Fairclough's early models of CDA consisted of three inter-related processes of analysis tied to three dimensions of discourse (Fairclough 1995, 2001). Fairclough then reused and adapted this model later in Chouliaraki and Fairclough (Chouliaraki and Fairclough 1999b).

The three dimensions of discourse are the object of analysis (text), the process by which the object is reproduced (practice) and the socio-historical conditions which govern this process. Each of these dimensions requires a different type of analysis, namely "*description of the text, interpretation of the relationship between text and interaction and explanation of the relationship between interaction and social context*" (Fairclough 2001, p91).

Analysis at the text level concentrates on linguistic features (vocabulary, grammar and syntax). At the discursive level, analysis focuses on how authors of the text draw on existing discourses and genres in the consumption and interpretation of the text.

Finally, analysis of the relationship between text and social practice focuses on how the discursive practice reproduces or restructures the existing order of discourse, and what consequences this has at a social level.

As a guide to the text level analysis, Fairclough develops ten questions (see Table 4-4) around three types of values, namely experiential, relational and expressive, and examines the formal features of the text, i.e. vocabulary, grammar and textual structures, according to these values.

As such, Fairclough notes that discourse contributes to the construction of social identities, social relations and systems of knowledge and meaning (Fairclough 2001).

In his research on globalization and language, Fairclough uses a version of the CDA that he has developed (Fairclough 2006). Fairclough analyzes "*instances of language in use*" (namely a speech by a senior member of the UK government),

starting with the linguistic aspect and looking at grammatical features. However, Fairclough doesn't stop at the level of the text as he is particularly interested in discourses (and here he uses discourses in sense of ways of representing the world) and genres that belong at the level of social practices and the inter-textual relations between these (Fairclough 2006). As he explains, "*one needs to go outside the text, using academic and non academic sources to get a sense of the social context*" (Fairclough 2006, p 129). Fairclough then critiques the discourse at the level of ideology, rhetoric and strategy. He shows how, as an ideology, the discourse legitimizes and preserves US interests, how mass media has been an important factor in the success of the globalist strategy, and how the discourse has been recontextualized regarding the discourse of "*war on terror*" and used as effective rhetoric in persuading people to accept and support particular actions and policies.

3.4.4 THE WAYS GEE AND FAIRCLOUGH HAVE BEEN USED IN THE LITERATURE

Rogers (2009) notes that Gee is one the few examples where discourse theories have been applied to matters of learning. It is therefore not surprising that many of the applications of his research have a firm base in the areas of education. In addition, because of his explicit link between Discourses and identities (Gee 2000), Gee's approach to discourses has been utilized by various researchers across many different contexts (e.g. fan fiction writing, internationalization of universities and science learning) to examine how individuals use language and text to identify aspects of their identity when traditional markers of identity are unavailable.

For example Black (Black 2008) looks at the world of online gaming and how individuals use language and text to identify aspects of their identity when traditional markers of identity are unavailable. She examines the sort of roles an individual occupies compared to the one ascribed to them by society. Brown et al. (Brown, Reveles and Kelly 2005) examine how the relationship between language, identity and classroom learning can provide insights into how students learn to become literate members of a scientific community. They note that in every discursive exchange, speakers and listeners are co-constructing meaning through interactions that position them as certain types of people. Every communicative utterance carries

with it meaning that contains both a primary message and is also grounded in issues of personal political and discursive identity. Their examples focus on students' demonstrations of themselves as experts, willing participants in the discourse, and outsiders.

Kittleson and Southerland (2004) used Gee's notion of D(d)iscourse to better understand the way in which groups of students construct science knowledge in an engineering context. They drew directly on Gee's analytical process of breaking the situation into smaller building tasks, and foregrounded activity and relationship building along with socio-culturally situated identity. Kittleson and Southerland did not find much evidence of competing discourses and attributed this to the unusual homogeneity of the students' group, but they did note that the disciplinary discourse of engineering was an important element in structuring the groups' interactions. In order to understand their work on a project, students had to be aware of the ways in which they actualized their understanding of being engineers and doing engineering.

Fairclough's approach, perhaps because of its firm rooting in systematic functional linguistics where the object of language study is regarded as the whole text (Rogers 2004c), is used more in analysis of policy documents, and in advertising (which is an area he has used quite extensively as examples in his books (Fairclough 2006, 2009)).

Croussouard (2004) utilizes Fairclough's CDA approach to highlight the tensions in discourses in an online consultative process conducted in 2003, aimed at producing a unified e-learning strategy for the British government. She looks at the conflicts between government strategy documents and the experiences of students in terms of the benefits of e-learning and the impact of technology on students' workplaces and personal space. Croussouard undertook detailed linguistic analysis and then interpreted this in terms of the broader order of discourses (or network of social practices). She concluded that public participation can form part of an authority's attempts to legitimize an action and that consensus is often constructed even when there are dissenting voices.

Hamston (2006) documents Australian primary school girls' struggles with discourses of ethnicity in a Studies of Asia curriculum project. She uses Fairclough's earlier

Textually Oriented Discourse Analysis (TODA) as a tool along with Bakhtin's theory of dialogue. Where Fairclough enabled Hamston to undertake a micro-linguistic description of the data which was foundational to the students' struggle with discourses and their framing of it within the curriculum, the Bakhtinian analysis enabled a shift towards the individual nature of the struggle occurring at a micro level within the classroom, and therefore shed light on larger social discourses.

(Fahey 2005) uses both Fairclough and Foucault to study the identities of volunteer ambulance workers in Australia and New Zealand. Drawing specifically on the text features of transitivity, modality and word meaning, she categorizes four key identities to which volunteers are subjected or subject themselves to with the Australian ambulance organizations. Fahey then notes how these relate to power relations within the organization, showing how each discourse was used for both dominance and resistance in terms of arguing for economic and social status.

3.4.5 SIMILARITIES AND DIFFERENCES BETWEEN THE TWO

Both Gee and Fairclough have been drawn on quite extensively within educational research. Rogers et al. (Rogers, Malancharuvil-Berkes, Mosley, Hui and O'Garro Joseph 2005) undertook a review of articles related to CDA in peer-reviewed journals. They selected articles that used CDA as a theory or method within the context of education. Their search revealed 40 articles over a 13-year period. In their examination of the different perspectives people drew on, they found that most research drew on Fairclough in some way. Rogers et al. noted that the research that drew on Gee's work was primarily in the United States and in the field of literacy studies, and that even whilst Gee himself does not define his work as CDA, some researchers do.

More recently, the two theorists have not been regarded as mutually exclusive. In Rogers' books, both Gee and Fairclough are represented together as chapter authors. She uses a combination of the two approaches in a study of low literate adults' experience of reading, literacy and education within the contexts of their own formal education, their children's education and their "out of school" literacy experiences. Rogers combines Fairclough's definitions of genre, discourse and style

and Gee's situated identities and concept of boundary crossing (Rogers 2004b) to present a systematic study of these relationships and ways of being of low literate adults in Missouri. In the same book, two other authors also use combinations of Gee and Fairclough's approaches, thus demonstrating the synergy between the two and the way that it enabled them to obtain a different angle or perspective on the research in question.

Whilst Gee and Fairclough's terminology and process differ, Rogers has noted that there are common intersections between their two theoretical and methodological models (Gee 2004; Rogers 2004b). Both agree that language involves textual, interpersonal and ideational functions, and go beyond just describing practice to explore the relationship between language and social structure. Rogers also asserts that the tension between these two frameworks is productive as *"it allows for the theory and methods of CDA to be reformulated and applied to important educational issues"* (Rogers 2004c).

3.5 ANALYTICAL FRAMEWORK

3.5.1 DRAWING ON KEY CONCEPTS

Critical analyses, in their endeavor to uncover power relations, often focus on disempowered groups, for example women (Adam 2002; Kvasny 2006; Trauth and Howcroft 2006a) or lower socio-economic groups (Bozionelos 2004; Lizie, Stewart and Avila 2004). However, I have taken the perspective, as also highlighted by Kvasny et al. (Kvasny *et al.* 2004), that examining the phenomenon from the perspective of pre-constructed categories is a less useful position to take than examining human agency in terms of adoption and use of ICTs within the structural constraints of the social historical and cultural context that surrounds it (Kvasny *et al.* 2004).

As highlighted in earlier, it is important as a critical discourse analyst to foreground one's conceptual tools. The four key concepts that are central analytical concepts in this thesis are meaning, identity, power and context.

Why these particular analytical concepts? Avgerou and Madon note that we need an understanding of new technologies (i.e. the Internet and the mobile phone) that can only be achieved by taking into account their symbolic meaning in everyday life (Avgerou and Madon 2004). One of the ways of examining meaning is to look at identity, as identity also acts as a source of meaning and experience for people (Koc 2006). It is not just about how the technology is adopted but about the way it is integrated into people's lives (Cushman and McLean 2008). However, critical research involves a shift away from just individual's situations and local meanings to the system of relations which make these meanings possible (Trauth and Howcroft 2006b). Thus, context is critical if we are to understand how ICTs are used, especially in developing countries (Avgerou and Madon 2004).

Issues of power surface when people's freedom to set and pursue their own goals and interests (Zheng and Walsham 2008) or achieve their personally-constructed life projects (Cushman and McLean 2008) are curtailed. That is, where local actors are not able to shape ICTs to their interests and appropriate their functionality.

Thus, identity and meaning are essential in understanding how new technologies are appropriated; context is necessary to examine the system as a whole; and issues of power surface, as they influence what is possible within the context the actors operate within.

3.5.2 MEANING

One of the key elements of discourse analysis (critical or not) is the relationship between form (the hard structures of the linguistic system, i.e. the words, nouns, adjectives, verbs etc.) and the function (the soft structures, i.e. the communicative purpose or, as Gee phrases it, the "*meaning potential*") (Gee 2004, 2005; Rogers 2004a). This relationship between form and function Gee terms "*utterance-type meaning*". However, Gee adds an additional layer where situated meanings take on specific meanings in specific contexts of use (Gee 2004). This he calls "*utterance-token meaning*" or more simply "*situated meaning*".

In a rather obscure statement, Gee sums up the three tenets of his understanding in relation to the meaning of language: "*Words only have meaning in relation to choices*

(by speakers and writers) and guesses (by hearers and readers) about other words and assumptions about context" (Gee 2005, p84).

The first key concept he calls the exclusion principle. When a person uses a word, he or she does so with the intention to include certain concepts and exclude others. For example when I use the phrase "information and communication technology" or "ICTs" I do so specifically because I mean "more than just a computer". However, for many people in a university setting, ICTs are synonymous with computers as many institutions have support divisions that go under the broad banner of ICT services or IT services and appear to focus primarily on computer support. So I find when I talk to students and use the term "information and communication technology" they will ask "do you mean computers"? But in actual fact, I do not just mean computers, I mean to include mobile phones, mp3 players, flash drives etc. – in fact, a range of technologies that could be used for a range of purposes.

Put in Gee's words,

"The meaning of a word (phrase) is (in part - there are other principles) a matter of what other words (or phrases) my use of a given word (or phrase) in a given situation is intended to exclude or not exclude as also possibly applicable (though not actually used in this case). Meaning is always (in part) a matter of intended exclusion and inclusions (contrasts and lack of contrasts) within an assumed semantic field" (Gee 2005, p82).

The second principle Gee calls the guessing principle, saying *"We can only make judgments about what others (and ourselves) mean by a word used on a given occasion by guessing what others words the word is meant to include and exclude"* (Gee 2005, p83). Gee also says that one can only make good guesses about meaning by considering the context of the communication.

Context then becomes crucial and *"can be the material setting, the people present, the language that came before or after an utterance, the social relationship of people involved, their ethic, and gendered identity, cultural, historical or institutional factors"* (Gee 2005, p57). The view between language and context in most contemporary

discourse analyses are usually reflexive; which Gee says means that the utterance (what we say/write) influences what we take to be the context and our context influences what we say.

In utterance-meaning tasks, validity is really only defending the particular grammatical theory about form and function in language. However, in situated-meaning tasks, the issue of validity involves the frame problem. Any aspect of context can affect the meaning of an oral or written utterance. Context is indefinitely large; no matter how much context we consider in offering an interpretation of the text, there is always a chance that additional aspects or new considerations could change that interpretation. All one can do to deal with this problem is to offer arguments that aspects of the context were well considered, and are important and relevant to the subjects of the research, and for analytical purposes of the researcher. Discourse analysis at the level of situated-meanings is always open to further revision as we learn more (Gee 2004).

3.5.3 CONTEXT

For Gee (2005), context refers to the *"ever widening set of factors that accompany language in use"* (Gee 2005, p57). Fairclough notes that discourse is a *"moment of the social process"* and that it is interconnected with other moments in a fluid kind of way (Fairclough 2006). As Gee notes, the language (or in Fairclough's terms, the social event) influences what we take as the context and the context influences what we interpret the utterance to mean. In Gee's terms, it is about situated meaning.

Blommaert (2005) also notes that context is therefore a crucial methodological and theoretical issue within CDA as it comes in various shapes and sizes and operates at different levels from very small to very big. Context is potentially everything and potentially infinite; but it can be to some extent predictable.

All the interpretation and understanding within CDA is the result of a contextualization process in which texts are made to fit a particular set of contexts by the participants in an interaction. In undertaking a CDA, it is important not to restrict the notion of context to what happens in a specific communicative event. Not just because we are

performing the interpretation of meaning as a matter of post hoc recontextualization, but also because of intertextuality.

The former concept – recontextualization – is explained by Fairclough as the process where outside entities come inside; and by Blommaert as a process that extracts text, signs or meaning from its original context (decontextualization) in order to introduce it into another context.

The latter concept – intertextuality – is explained by Blommaert as the way people use the words of others, cite and recite expressions, and induce meanings (Blommaert 2005). Intertextuality is the recontextualization of relations to specific texts, discourses or conversations that grounds discourse analysis firmly into histories of use; histories that are social cultural and political. So we need to look beyond the boundaries of a particular communicative event to see where the expressions used come from, what their sources are and whom they speak for.

Other types of recontextualization can involve intra-textuality (references backwards and forwards to a text within the same text, discourse or conversation), and inter-discursivity (recontextualization of types of discourse, such as genres).

As context is critical to CDA, it can constitute an important methodological problem, namely that of framing the discourse in a particular selection of contexts that are relevant to the researcher but not the object of investigation.

Another important aspect of context is Foucault's rooting of discourse as a historical product (Foucault 1969). Gee notes that in this regard, it is sometimes helpful to say that *"it is not individuals who speak and act but rather that historically and socially defined Discourses speak to each other through individuals. The individual instantiates, gives body to a Discourse every time he or she acts or speaks, and thus carries it and ultimately changes it through time"* (Gee 2008, 162).

In other words, discourses are systematically-organized sets of statements that give expression to the meanings and values of an institution. Beyond that, they define, describe and delimit what it is possible to say and what it is not possible to say (and

by extension, what to do and what not to do) with respect to the area of concern of that institution, whether marginally or centrally. (Kress 1985 in Pennycook 2001).

This notion of the unsayable is contained within Foucault's concept of the archive (see archaeology of knowledge). Basically, the archive is a set of "discursive mechanisms" that limit what can be said, in what form it can be said, and what is counted as worth knowing and remembering (Mills 2004).

The archive is the system of statements of events and things. "*The archive is first the law of what can be said, the system that governs the appearance of statements as unique events ... it is that which at the very root of the statement-event, and in that which embodies it, defines at the outset the system of its enunciability*" (Foucault 1969, p 129). It cannot be described exhaustively, and it is not possible to describe our own archive, as we are operating from within these rules as we speak; although its presence is unavoidable.

Thus, Blommaert notes that the archive is useful because it reminds us of the limits within which the discourse operates (Blommaert 2005). Whilst the notion of the archive has not been used explicitly in IS, Trauth and Howcroft have implied something similar in their call for empirical sensitivity (Trauth and Howcroft 2006b). Here, they note a critical researcher needs to also examine what is "not said" and look for the meaning in that; as often, absence of voice is taken to mean consensus.

3.5.4 IDENTITY

CDA has been noted by Ainsworth and Hardy as being "*regularly used to study identity*" (Ainsworth and Hardy, 225). For Gee, Big D Discourses are a sort of identity kit. They are the combination of what people say, do, think, feel and value. Each community or social group masters a home-based discourse that integrates words, actions, values, feelings, attitudes and thinking in specific and distinctive ways. Each of these discourses is connected to a particular social group's way of being in the world, its "form of life", its very identity it regard itself as having (Gee 1996). Discourses are acquired through enculturation into a social practice and they cannot be taught (Gee 1996).

Each discourse incorporates a usually taken-for-granted and tacit theory of what counts as a normal person and the right way to think, feel and behave. These theories crucially involve viewpoints on the distribution of social goods, like status and worth and material goods in society (who should and should not have them). They are defined not just by what they are but by what they are not (i.e. often in relation to an opposing discourse).

Discourse theories are related to the distribution of social power and hierarchical structure in society and empower the groups who have the least conflict between their discourses. Sometimes people's discourses can be conflicting. For example a discourse can be at odds with a person's other social practices. Gee also notes that it is a great advantage when secondary discourses are compatible in words, deeds and values with one's primary discourse (Gee 2005).

Goode looks at how holding a particular technological identity impacts the academic and social life of college students (Goode 2010). Even in the US, she comments that there are rarely explicit technology prerequisites for college entrance, resulting in a range of literacy and experience; with too often female, low income students of color being the most under-prepared for the digital college environment. Focusing on how technology uniquely shapes the way individuals live their lives, Goode uses identity as a theoretical and methodological guide; and considers how experiences lead to the construction of a technological identity and examines how holding or not holding a technological identity impacts on an individual's ongoing endeavors. She comments on Wenger's view of identity as "*a way of being in the world*" and Gee's as acting and interacting as a "*certain kind of person*". Gee's affinity group is rather like Wenger's communities of practice. Viewing identities as a product of participation in communities (i.e. as contextually specific) can strengthen our investigation of how computing experiences influence an individual's relationships with technology (Goode 2010).

However, identity construction is more than the sum of an individual's social experiences. There is an inherent tension between group affiliation and individual agency. Membership of an identity group does not determine behavior but, as

Foucault notes (Foucault 1994b), there is an ease with which people readily accept the social groupings imposed on us.

Goode (Goode 2010) draws on Martin, who developed an analytical conception of technological identity along four aspects of one's belief systems. It includes beliefs about one's own technological ability, beliefs about the importance of technology, beliefs about participation opportunities and constraints that exist, and one's sense of motivation to learn more about technology.

Examining technological identity provides a useful perspective of the digital divide as it places the unit of analysis at the level of the individual; it foregrounds the social and cultural contexts by situating lived experiences in a landscape of culturally-situated practices and enables a more nuanced understanding of the digital divide (Goode 2010).

The three "identities" that Goode highlights represent different points of the spectrum in terms of technological fluency, cultural identity and experiences. These three identities are those who feel that their lack of ability means they are always trying to catch up, those who have acquired computer ability but it is not something they see as important, and those who are passionate about technology and have the skills, e.g. technophiles. Goode concludes that the type of technology identity a student holds creates both academic opportunities and obstacles for them.

This concern has also been noted within critical research in IS, as alienation and identity are considered to be key factors that hinder emancipation (Stahl *et al.* 2005).

Sfard and Prusak comment that the notion of identity proves helpful in dealing with issues of power and of personal and collective responsibilities in individuals' lives (Sfard and Prusak 2005, p15). They level a criticism at Gee and others that the very syntax used in "being a kind of person" implies that one's present status is in a sense extra discursive and independent of one's actions, i.e. they are timeless and agentless. Sfard and Prusak say this essentialist vision of identity is harmful, i.e. it is a generalization made about a particular social group in the context that does not just describe the group but also dictates the self-understanding that its members should have. Their other criticism of Gee's approach is that it is not operational. I would

argue that this is a particular view of Gee's notion of discourse - they refer only to Gee's article on Identity as an Analytical Lens (Gee 2000). Clearly, Gee's notions of discourse are operationalized in more detail in his other publications and do not imply static agentless individuals.

3.5.5 POWER

Theoretically, the concept of power is quite hotly contested (Hindess 1996). In a history of theoretical conceptions of power, Hindess describes three core views of power at the level of the individual. The first view of power is as a capacity to act, where people use power with things and with other people. In this view, there is an unequal relationship between those who use power for their own purposes and those who are subject to its effects; and power is used as an instrument of domination.

The second view of power is one where the subjugated are covertly excluded from decision-making structures and thus, whilst they might be exercising some voice, that voice is not heard.

The third view of power is where the subjugated are compliant in their powerlessness; failing to recognize that their interests are at risk or not making any attempts to defend these interests.

Social stratification is the overall creation and distribution of power in society. Hindess describes Giddens as taking the view of power at the social level beyond who has the power and who does not, to look at how power can be used against the interest of society. In this view, power has capacity. A more radical view, which Hindess attributes to Marcause, is that an individual has the free choice to perpetuate power relations that further the interests of more dominant others (Hindess 1996).

Habermas elaborates on the work of earlier critical theorists of the Frankfurt school (Klein and Huynh 2004). Although Habermas provides a more complex account of society, his view of power is still based on the radical view described above and he views power as having some kind of capacity. Habermas views the individual as a creature of power, autonomous and thus providing an ideal against which the present

can be measured (Stahl 2008b). This is an ideal that could be reached in a realm of social existence that is not structured by the illegitimate (bad) effects of power – a kind of a presentation of a utopian view of society. Thus, critical theory identifies illegitimate (bad) power and looks at how it can be removed as an obstacle to achieving individual autonomy (Stahl 2008b).

Foucault's view is quite different. He wrote quite a lot on the matter (Foucault 1994a) and was once challenged about why "we need a theory of power" and "is it such an important subject" (Foucault 1994a). His response was that we needed a "*new economy*" of power relations that was empirical, grounded in present reality and had a relationship between theory and practice.

Foucault believes there is no such entity as power. "*Power exists only as exercised by some on others, only when it is put into action*" (Foucault 1994a, p340). Analysis of power cannot be reduced to a study of a series of institutions (Foucault 1994a, p245) as it is "*rooted in the whole network of the social*". It needs to be considered as a "*productive network that runs through the whole social body much more than as a negative instance whose functions is repression*" (Foucault 1994a, p120).

Foucault views power as something exercised over those who are in a position to choose, although power influences what those choices will be.

Foucault separates power and domination. On the one hand, power is a "*strategic game between liberties*" where people can engage in the exercise of power on their own account – i.e. the element of choice. On the other hand, domination is where the person has little room to maneuver because the margin of their liberty is extremely limited. The distinction between power and domination allows Foucault to condemn domination but not power. This is quite different to the previous critical view of power.

This view of power has enabled researchers to examine power at both a macro and micro level and to still view the individual as having agency. Agency is an important concept in this view of power and, whilst it can be an entire construct on its own, I have chosen to view agency within the construct of power. Like other IS researchers, I take agency to mean the freedom to set and pursue one's own goals and interests (Avgerou and Madon 2004; Cushman and McLean 2008).

Norton, in her research on identities of immigrant language learners in Canada, has drawn quite considerably on Foucault's views of power (Norton 2000). Her concept of power follows Foucault in that it is not *"simply something that can be possessed but a relation which always implies social exchange on a particular set of terms, i.e. constantly renegotiated as symbolic and material resources in a society"*. Norton draws on other researchers such as Simons and Cummins, who state that *"the power relationship is additive rather than subtractive. Power is created with others rather than being imposed on or exercised over others"* (Norton 1997, p 21). Norton defines symbolic resources as language, education and friendship; and materials resources as capital goods, real estate and money.

Norton (Norton 2000, p127) does not regard the subject (person) as passive; he or she is conceived of as both subject of and subject to relations of power; or, worded in another way, the human subject has human agency. This leads Norton to her concept of identity as a *"site of struggle"*, i.e. whilst a person may be positioned in a particular way given a particular discourse, he or she may resist this position and set up a *"counter discourse"* that positions them as powerful rather than marginalized. The view of power and identity as being open to change is crucial as it opens up opportunities or possibilities for interventions – a crucial aspect of critical research. Norton (Norton 2000) also expands her view on power, taking the position that identity references desire for recognition, affiliation, security and safety. Such desires cannot be separated from the distribution of material resources: *"people who have access to a wide range of resources in society will have access to power and privilege which in turn influences how they understand their relationship to the world and the possibilities for their future"* (Norton 2000).

Thus, Norton comes up with a very useful succinct definition of power as the *"socially constructed relations among individuals, institutions and communities through which symbolic and material resources in society are produced, distributed and validated"* (Norton 2000, p7), relations, she notes, that are inevitably produced in language.

Whilst a Foucauldian view of power is not as dominant within IS as a Habermasian one, there are researchers who have found it to be a useful theoretical construct. Stahl (Stahl 2004), for example, has used Foucault to complement Habermas and

examine power at the level of the individual. Doolin (Doolin 2009) has drawn on Foucault in examining organizational practices within the health sector and Alvarez has drawn on an aspect of Foucault's conceptualization of power as highlighted within language. Alvarez remarks on the integral part power plays in a CDA, drawing on Foucault's notion of power and noting its difference to the prevailing notions of oppressive power. Alvarez notes that Foucault shows us that power and knowledge are the same sides of the social relations coin. For example in order to act upon an object (e.g. a car) we must first know it, i.e. be able to some degree control it, i.e. *"we must render its unknown parts knowable so that we can have power over it as an object"* (Alvarez 2005). Thus, power is a relational activity with knowledge structuring our interaction with an object or subject and enabling our intervention. Language does not contain power but it does express power relations.

3.6 INDICATORS

In order to unpack the constructs of meaning, context, identity and power, I needed analytical indicators. Analytically, I focus on two linguistic features of text, namely agency and modality; and examine discourse at the discursive level. These indicators enable me to uncover the concerns underpinning the constructs and make conclusions at the level of social practice.

3.6.1 DISCOURSE

Many people use the term discourse to describe a kind of "world view" of a piece of text. Sometimes these are ideological, for example globalization (Steger 2005), and at other times they are more discursive, e.g. "development discourse" (Wilson 2003).

Gee draws on a number of analytical tools of inquiry in his discourse analysis, one being thinking about the different discourses of which a piece of language is a part (Gee 2005). This, along with another useful concept, that he terms "Big C" Conversations, is particularly interesting in trying to uncover *"themes, debates or motifs that have been the focus of much talk and writing in some social group with which we are familiar or in our society as a whole"* (Gee 2005, p21). Gee notes that most of us are aware of *"societal Conversations going on around us like abortion,*

creationism, global warming, terrorism" (Gee 2005). Thinking about the different Conversations a piece of language relates to is another tool of analysis. Gee terms these Big C Conversations, as he views these as grand societal conversations. Gee uses Conversation explicitly as a tool of inquiry to examine what Conversations a piece of text refers to and what it does not. How do these impinge on what people are saying and what others take this to mean, and how are they shaping the discourse?

Fairclough doesn't have quite as explicit a way of examining this concept. He understands one of the meanings of discourses to be "*a way of construing aspects of the world (physical, social or mental) which can be identified with different positions of perspectives of different groups of social actors*" (Fairclough 2009, p164); who are situated within an order of discourse which is a dimension of social practices that are particular configurations of different genres, different styles and different discourses.

Embedded within Fairclough's idea of orders of discourse are discursive practices associated with institutionalized sets of ideas (Tu and Kvasny 2006). Discursive types (not a phrase used directly by Fairclough except for a passing mention in Chouliaraki and Fairclough (1999a, p59) are therefore seen to be thematic constructs within particular orders of discourse. First used within IS by Thompson as a way of identifying discourse themes (Thompson 2004), this refinement of Fairclough's ideas pertaining to orders of discourse and discursive practices has been subsequently drawn on by (Ng'ambi 2008; Roode *et al.* 2004; Tu and Kvasny 2006).

Budd (2005), who comes from an English Second Language background, uses CDA to understand how technological discourses both enable and constrain individual agency in an educational setting. She draws on another understanding of discourse as a particular way of understanding and representing the world.

In all of these approaches, it is important to note that although "*discourse does ideological work*" (Wodak 1996, p18), it is not necessarily an ideology in and of itself. Ideology, whilst also a way of representing and constructing society, has the added dimensions of reproducing unequal relations of power (Fairclough 1992; Wodak 1996).

3.6.1.1 DISCOURSES ABOUT ICTS

Research on discourses of ICTs in general has revealed a variety of themes. Whilst terminology differs between contexts (whether the ICT discourses are viewed in relation to policy, education, government etc.), the themes that are common in the literature across the settings are ones of technological optimism, efficiency, liberation, imperialism/globalization (digital divide) and productivity (Budd 2005; Thompson 2004; Wilson 2003). In this section, I provide an overview of ICT discourses from the literature.

Thompson (2004) examined discursive practices found within a speech from the World Bank President and identified six types he called Technocracy (traditional development discourse of technocratic expertise), Legitimacy (poverty as evidence of undisputable need for expertise), Neutrality (ICT is a neutral force in development), Corporatism (display of expertise in the corporate terms with which ICT is surrounded and discussed), Tech (nological) optimism (optimism bordering on determinism), and Pragmatism (pragmatic use on the ground ensuring results. These groupings were used by Roode et al. in an analysis of government speeches that highlight the South African government's position on ICTs. They demonstrate the technocratic and technological optimistic position within the South African government, highlighting the strong conviction that development problems can be solved by availability and access. Ng'ambi (Ng'ambi 2008) used these same discursive types but adapted their definitions for the context of his study, which was students' anonymous online postings within a course. He defined Neutrality as not taking sides on a topic in a discussion, Corporatism as implying collaboration, Technological optimism as acknowledging technology's potentials, Pragmatism as addressing practical issues, and Legitimacy as referring to authoritative discourse. He didn't draw on Technocracy as this was traditional development discourse and less relevant to the educational context.

There have been a number of common themes identified with the public and development discourse. Wilson examined websites of various organizations identified as being important role players in the international ICT and development field through discourse analysis. Wilson does not label the discourses but instead highlights a

number of underlying assumptions in the development discourses about the role of ICTs, some of which fall into the discourses as described by Thompson. If we examine Thompson's discursive types along with Wilson's assumptions that she highlights as being subliminal to the discourses, we see a number of overlaps (Wilson 2003).

What Thompson labels "Technocracy" and sees as the traditional development discourse of technocratic expertise fits well with what Wilson describes as the dichotomy divide between developed and under developed countries and the conflagration of the terminology of information and knowledge with technology. Thompson's notion of "Legitimacy", poverty as evidence of undisputable need for expertise, corresponds to Wilson's global information society, where categories of people are considered "information poor".

Both Thompson and Wilson comment on ICTs as a neutral force in development. Labeled "Neutrality" by Thompson, Wilson also picks up on the sub- text of ICTs as a global public good and essential for supporting the global economy. "Corporatism", as termed by Thompson, also relates to Wilson's description of information and knowledge – seen as a commodity and approached from an economic perspective.

Tech (nological) optimism or Technological determinism are both commented on by Thompson and Wilson. Thompson's "Pragmatism" (pragmatic use on the ground ensuring results) has synergies with Wilson's information revolution offering countries opportunities to leapfrog.

Within an educational context, researchers have used various forms of discourse analysis to understand people's attitudes towards technology. Budd (2005) used CDA to understand how technological discourses enable and constrain individual agencies and identifies six prevalent discourses whose implications are then examined in terms of educational research. Sasseville (2004) used a tool he describes as a discursive analysis grid to analyze discourses in two different textual groups. The first texts aimed at teachers and the second texts aimed at the voices of the teachers themselves, and he identifies a variety of themes that emerge across both.

Budd's most dominant discourse is known as technological determinism and privileges technology, seeing it as a "*force to which all things must respond and adapt*". It is expressed by people as a limitless faith in technology, almost a kind of "religious transcendence", and has the effect of people abdicating their responsibility and making technology responsible for their actions. In Sasseville's corpus of texts, this is represented as having "*no choice but to follow technological evolution*" and from the teachers' point of view, as essential for today's job market (Sasseville 2004).

Budd's second most dominant discourse is that of the mythical or invisible space. It involves a lack of physical presence and offers anonymity and potential empowerment for marginal groups. It can be liberating for some by making the body invisible or it can be disembodied and affect people's relationships within the real world. Sasseville found elements of this with the teachers' discourses, where teachers cautioned against adopting computers at the expense of other more traditional tools (Sasseville 2004).

Budd's third discourse is one of speed where technology has a strong imperative and needs to just be used. Technology helps people to get things done better, faster and to keep up with the fast pace of life. The past is viewed as a "technological backwater" and it serves to justify the need to keep up and use technology. However, teachers in Sasseville's study were also aware of the challenges of learning to use new technologies and were principally concerned with the lack of time at their disposal (Sasseville 2004).

Budd's fourth discourse is constructed around the myth of freedom of information and captures notions of liberation through the availability of free information. However, it ignores the reality that information is commodified and controlled. Sasseville notes in the corpus of text views of intellectual changes being associated with students and changes to the way students think as a result of having access to so much information. This has also been highlighted in Barreto's analysis of educational policy in Brazil, where tertiary education roles in the new knowledge-based societies are constructed (Barreto 2008).

The fifth discourse is of imperialism which Budd notes acknowledges social divisions yet still "sells" ICTs to the world as potentially liberating for development, reinforcing

the myth of the global marketplace. The least dominant discourse in Budd's groupings is one of productivity, where technology is foregrounded as a producer and people are constructed as subordinate to the machine.

Some of these themes also emerge in an examination of literacy in today's social context. Whilst Leu et al. (Leu, Kinzer, Coiro and Cammack 2004) do not talk about discourses per se, they do highlight three drivers that impact on students, namely global economic competition (work characterized by the effective use of information to solve problems with this global economy); the rapid emergence of the Internet (and with it the issue of not only locating useful information but being able to critically evaluate it); and the public policy initiatives of governments who are trying to increase education and literacy and are therefore making a big push at schools level.

The globalization discourse is strongly evident in literature around ICTs in higher education. Here, ICTs are viewed in terms of progress and are conceived of as inevitable. Ravjee (2007) notes that in terms of education, it is seen as a central "tool for change". Clegg et al. (2003) also note how the key characteristics of globalization (being the dynamics of technological innovation and capitalist expansion) have had a profound effect on educational policy as these *"forces are seen to be overwhelming and unchallengeable"*. These are the views that are strongly evident in the government policy and media releases outlined in the Background chapter.

Whilst Budd appears to group the globalization and digital divide discourses together, Ravjee separates them. The discourse relates new digital divides to old divides along the lines of socio-economic political and cultural divides. The optimistic view sees ICTs as being able to create greater equality and attempts to "bridge" the divide through increased resource distribution; not questioning what access might be needed and ignoring the possibility that some people may never have access to the use of ICTs. Critics of this view acknowledge the potential of ICTs but argue that physical access alone is not enough to constitute meaningful access, and that barriers to participation may involve more than demographics alone. They argue that it is necessary to view the use of ICTs within a context (Avgerou and Madon 2004).

Ravjee also notes a third discourse – that of the ICTs and the market as being "twin forces" – and draws on Clegg's views that ICTs are not neutral and operate within a

context and linked to the commodification of teaching in terms of virtual universities and online courses. This is strongly evident in Barreto's analysis of educational policy documents in Brazil, where education is conceived of as a market and a commodity, and that ICTs have a role in delivering knowledge in very much the same way as a restaurant delivers food (Barreto 2008).

3.6.2 LINGUISTIC FEATURES OF TEXT

Up until now, most of the key concepts and approaches to CDA that I have drawn on relate to the level of discursive or social practice (Fairclough 2001) (see Figure 4-1). As I have mentioned earlier, text analysis is another part of discourse analysis and one that is often core to CDA approaches, particularly those that draw on Systematic Functional Linguistics (SFL). Fairclough provides a list of questions and textual features that are most significant at the critical level (see Table 4-4). These, he cautions, are not a blueprint and their presence within texts depends on the discourse type. The textual features are categorized according to their main linguistic features, i.e. vocabulary, grammar or structures and according to three types of values, namely experiential, relational and expressive. Experiential values relate to a person's experience of the natural and social world that is represented. It has to do with content, knowledge and beliefs. A relational value gives clues to a person's social relationships and expressive values are about a person's evaluation (in the widest sense) of the aspect of the reality to which the text features relate. These values have to do with subjects and their social identities.

At the textual level, the two concepts of CDA that are of particular interest with regards to the research questions are modality and agency. These are located linguistically at the grammatical level and span all three types of values. The decision to focus on these two aspects of grammar came out of my pilot analysis described in section 4.4.2.1 where experiential and relational values of grammar (as described by Fairclough 2001) were both easily identifiable in the type of texts under examination and provided understanding as to the experiences and beliefs of students that informed the research questions.

3.6.2.1 MODALITY

Modality signals the degree and type of involvement the person has with his or her message (Fairclough 1992). That is, how categorically a person asserts that a proposition is true. As a result, because of less categorical or determinate degrees of commitment to a proposition, there is a sphere of modality (Fairclough 1992). Modality is about the certainty and/or the authority with which a person regards a statement (Huckin 1995).

Modality has both relational and expressive values in grammar. Firstly, in terms of the authority one person has in relation to others, it is relational. Secondly, if it is a matter of the authority of the person with respect to the truth or probability of representation of reality, then it is expressive.

Modality is traditionally associated with modal auxiliary verbs (e.g. may, must, can't, should, etc.; where may = possibility, must = certainty/obligation, can't = impossible, should = probable) and modal adverbs, such as possibly, probably, obviously and definitely with equivalent adjectives, e.g. it is likely/possible/probable that the earth is flat. Hedges such as "sort of" or "a bit" also indicate different degrees of affinity with a statement.

Modal auxiliaries do encode probabilities about hearer-speaker relationships but blur the distinctions between past, present and future and knowledge and power. Modal adverbs (e.g. possibly, probably, certainly) are better at determining modal status and verbs like "I think" have a modal and non-modal use as well.

Modality enables the examination of social relations in the discourse and controlling representations of reality. It is a useful way of uncovering issues of power and solidarity within the text; as the speaker can translate his or her uncertainty about his or her status in a power situation into uncertainty about his or her status with his or her utterances. A speaker may also use modality to protect his or her utterance from criticism. A large number of modal words within a text can indicate considerable fear and vulnerability on the speaker's part, rather than intellectual uncertainty.

Affinity with a proposition is also a way of expressing solidarity with a group. So, expressing affinity may be more to do with desire to show solidarity than commitment

to the propositions. Solidarity is often expressed as a negative question and positive assertion. For example "she is beautiful isn't she?".

Modality may be subjective or objective, e.g. "I think it likely that the earth is flat" versus "The earth may be flat". If it is subjective, one can be sure it is the speaker's own degree of affinity that is being expressed; whereas in objective modality, one doesn't know whose perspective is being represented. Is the speaker trying to project his or her own perspective as something universal or is he or she acting as a vehicle for someone else? The use of objective modality often implies some form of power.

3.6.2.2 AGENCY

Investigation of the use of pronouns provides more evidence about a person's relation to society and, like modality, is also tied in with relationships of solidarity and power. The choice of pronoun use is socially significant with respect to the representation of agency (Fairclough 2003). Fairclough notes that pronouns are "worth attending to in text" (Fairclough 2003) firstly because they provide a pointer to the "us and them" division but also because the use of the personal plural pronoun "we" is often associated with the universal and an attempt to redefine or reassert a particular identity (Ndambuki and Janks 2010). The use of pronouns also provides some indication as to whether an individual feels included or excluded, and if they feel included, provide evidence as to whether this inclusion is in terms of an active or passive role.

Other aspects of how individuals refer to themselves are also of interest. Lack of clarity or, as Fairclough puts it, "obfuscation" of agency is another interesting text feature that is located within the experiential value of grammar and necessitates exploration (Fairclough 2001). Here absence of agency and inclusion is equally as interesting.

Another aspect is the use of what Gee terms "I-Statements" (Gee 2005, p141) which indicate a strong level of agency and what they can tell us about a person's socially-situated identity. Gee takes this level of analysis into yet another level in unpacking I-Statements in relation to teenagers' identities. He describes five different types of statements. The cognitive statement (when a person talks about thinking

and knowing); the affective statement (about their desires and likes); the action statement (what they do); the ability or constraint statement (where they talk about what they can or have to do); and the achievement statement (where they talk about anything in relation to their accomplishments (Gee 2005).

Both the use of pronouns, and modality have been used to understand the construction of agency amongst womens groups in rural Kenya (Ndambuki and Janks 2010). The research showed that whilst women had a negative construction of themselves, this does not match their actions and they way women assume agency to survive and improve their local conditions. The use of this particular linguistic feature, provided a useful analytical lens to examine agency that might be socially constrained, but not socially determined.

3.7 PERSONAL MOTIVATIONS FOR RESEARCH

One of the central tenets of critical theory within IS is reflexivity (Howcroft and Trauth 2005; Stahl 2004). As a critical researcher, it important for me to be aware of my own motivations for conducting this research and it is important for the reader to know the lens through which I view this research. What follows next is a narrative of my personal intellectual journey in terms of this thesis. Here my "voice" changes as I provide an account of some of the key moments in my research. This account is situated here in my theory chapter as this journey has influenced the theoretical approach I ended up taking for this thesis.

3.7.1 THE JOURNEY

The data used for this thesis was drawn from two larger projects on which I was the primary researcher. The initial project (that sparked my research proposal) was a cross-institutional collaboration called Information and Communication Technologies in Higher Education (or referred to more frequently by its acronym HictE) funded by the Carnegie Corporation of New York. The aim was to obtain baseline data (which did not exist in the Western Cape region of South Africa) on students' access to ICTs and how they used them for learning. As part of the institutional collaboration, we were required to conduct a survey. During the design phase of the survey, we sought

feedback and input from an informal reference group. One thing that stuck in my mind was a comment from a sociology professor who said that people seldom responded to open-ended questions and that it was pointless to put too many of these in, especially as we already had quite a long survey. However, as one of our research questions was to investigate the enabling and constraining factors that effected students' ICT access and use, we felt that open-ended questions about different aspects of access and use were important.

As the primary researcher, I was responsible for data collection, which I undertook personally at my home university. The survey was largely paper-based (a conscious decision again despite the time and cost involved for the research team) as we were interested in issues that pertained to students with low access to ICTs and did not want to exclude their participation by having an online survey. The survey was administered during class time and lectures or tutorials with prior arrangements from the lecturers. I would arrive at a lecture, briefly explain the purpose of the research to the students and indicate that completion of the survey was anonymous and voluntary; and then hand out the surveys and wait to collect them as the students finished and left the venue. It became apparent to me then that many students took the opportunity very seriously. Yes, there were those who tried to complete the survey as quickly as possible so they could "leave lectures early". But there were also students who were still writing their responses as the next class was arriving.

It was whilst working on the analysis of the survey and starting to explore the focus of my PhD (encouraged by the HictE project, which was keen to obtain postgraduate research output related to the project) that I began to see synergies between the two.

Firstly, there was an overwhelmingly positive attitude to ICTs that almost seemed unreal coming through in the quantitative data. Students thought computers were great and would help them in their learning. Yet, when I read the qualitative data, there appeared such a difference in attitudes. Consequently, I was left with a question of "so what do ICTs really mean to students" and how to get to the bottom of this; as it was not really a question that was easy to answer, because if asked directly (as in the survey) students tended to give a superficial answer.

Part of the overall research design of the project was that we would undertake a content analysis of the data (Brown and Czerniewicz 2004). However, in working with the qualitative responses, I began to realize that there was more to the text than what was being said. It was not the "what" that was interesting but more the "how". How the students talked about ICTs, how they saw themselves in terms of ICTs and how they described relationships. It was at this point that I started to see the opportunities that CDA offered to illuminate some of the underlying "undercover" issues of what students thought about ICTs.

It was then I realized that I had access to a rich body of data and that, as a project, we would only get halfway to analyzing and interpreting what we had. The opportunity to utilize the data collected for a larger project in which I was so directly involved was appealing. My personal situation meant that I would be working full-time with a young family whilst employed under temporary academic conditions. This meant that I was not eligible for postgraduate student funding (because I worked full-time); nor was I eligible for academic funding, such as research leave, grants, conference travel etc. as I was on temporary conditions of service. If I was going to do a PhD, I needed to be strategic. Utilizing existing data with which I was familiar provided such an opportunity and it offered a unique research opportunity that is so often missed – to build on a current research project.

So, unlike most doctoral students, I started this research with the data. Consequently, I was faced with different challenges – could I utilize this data in "solving" a research problem that was not consciously there at the outset? How could I provide a distinctive and unique lens in analysis and interpretation of the data that would enable me to make an individual contribution?

A number of personal incidences and reflections set me on the theoretical path and analytical framework that I have utilized in this study.

I remember standing in a lecture theatre asking students to voluntarily complete our survey and seeing a number of well-dressed "jack the lad" type White boys hop up and disappear off, making the most of the early end to class and the free time. Forty-five minutes later, I thanked the last student to finish the survey for her time (a young Black female) and she apologized that it had taken her so long but said she really felt

it was important to tell someone about the issues she and her fellow students in residence were facing in terms of using ICTs. That single episode emphasized to me the reality of the power relations that existed around ICTs at university.

As I continued to work on this project, I realized that whilst interpretive research was valuable, it stopped short of "upsetting the apple cart". However, I did not think that critical approaches were for me as it was not my personality type to want to challenge the status quo. Wherever I have been, whether work or personal circumstances, I have always worked for change "within the system" rather than rejecting it. I work in a Centre for Educational Technology whose whole reason for existence was an acknowledgement of the value of using ICTs for teaching and learning. My continued employment as a researcher relies on funders and the university believing this as true. After all, if ICTs are not important to teaching and learning, then why bother researching issues around students' access and why care if they used ICTs at all?

Personally, my experiences with ICTs had been positive and I had experienced what I had felt was a sudden liberation when I moved countries in 1994, and went from a computer being a device to type my Master's thesis in South Africa, to what seemed like instantaneous global connectivity with the ability to access resources across the world and finish my Master's thesis in Archaeology by email. This opportunity is probably what set me on my future career path. I was working as a generic research assistant in a university when someone from our unit was needed to get involved in an academic working group focusing on using the web in teaching. Other staff were a bit suspicious and disinterested in this new thing that was going on, so my volunteering was readily accepted and I started exploring the use of teaching within an education context. Thus I went from archaeologist to educational technologist and have never looked back (forgive the pun).

Consequently, I had never personally questioned the use of technology for education and the world view of critical theorists seemed a bit alien to me. In fact, for a long while, even after my decision to adopt a critical theory stance for my PhD, I apologized for my inadequacy in this regard to others and never overtly named myself as such as I felt like a fraud. However, as a researcher, I could see the need

to look at the research dilemmas I was facing in my projects in a completely different way. Critical theory offered me such a lens to focus on concepts of power, control, resistance and inequality which I could see happening in front of my eyes but could not find the research tools to uncover.

Thus, this need to delve deeper and deeper into the reasons behind students' experiences with ICT along with my background as an archaeologist is what brought me to the point where I wanted to excavate an artefact. But in this case, the artefact was not tangible. I have called it an object because it is something I believe one can see or attain. Yet it is ephemeral as it is the purpose, goal or project that students strived to achieve in terms of using ICTs in the realm of learning. As Cushman puts it, it is the achievement of personally-constructed life projects (Cushman and McLean 2008). I had a sense if I could understand why students were doing it (i.e. using technology), we might be able to understand better what ICTs meant to them and how this impacted on their use of ICTs for learning.

The formulation of these ideas took a while. My proposal was accepted in early 2006 and I started to explore CDA as the crux of my analytical framework, undertaking a pilot analysis of the 2004 data. By 2007, I was working as primary researcher on an extension to our original project, which had this time expanded beyond the Western Cape region to students across other universities in South Africa. This second phase of research was funded by South Africa's National Research Foundation (NRF).

This time, the qualitative dataset from the open-ended survey questions was even richer than the original survey, and thus my dataset expanded to include qualitative data from two surveys – the original in 2004 and the extension in 2007.

My PhD took a backseat in 2008 with the birth of my second child. When I got back into my PhD, I started working more closely with the 2007 data as it was foremost in my mind. My Critical Discourse Approach broadened beyond Fairclough (my original inspiration) to include Gee and I presented a paper on my preliminary findings in 2009 at a conference at the London School of Education.

Brown, C (2009). It's (I'm) not good enough: contrasting discourses of ICTs amongst South African university students. Paper presented at the *Mobile Learning Symposium*. 23 March 2009, London School of Education.

Winning the "best paper award" for the presentation was a huge boost for my PhD research. I realized that my research was sound, made sense to others and was, above all, interesting. It gave me the confidence to continue my research and pursue the critical research framework.

Whilst I had undertaken analysis of both datasets, the more I moved beyond the text towards situating its meaning at a social level, the more I realized that whilst I valued the breadth of the corpus of data, I needed depth as well. So, I decided that the 2004 datasets had served their purpose of being the spark for the research and acting as a pilot; and I would do the data better justice by focusing on the 2007 dataset for the thesis.

3.8 SUMMARY

There has recently been a call for critical theory researchers to be more explicit in terms of their methodology and theoretical positioning. Rogers (2004c) calls for discourse analysts to be more explicit in defining what they mean by various key components of CDA. Weiss and Wodak (Weiss and Wodak 2003) ask for more explicit overviews of conceptual and analytical frameworks. Within IS critical theory, research has also been criticized for its vagueness in terms of methodology. Consequently, I end this chapter with a brief overview of how I have approached this thesis as a critical theorist using CDA as my primary methodological tool.

3.8.1 WHAT IS CRITICAL?

In this thesis, I adopt a critical view of students' use of technology. For me, this means I am seeking to go beyond just understanding meaning to uncover hidden power dynamics, critique the status quo and challenge technological determinism. It does not mean I am aligning myself with the Frankfurt school of critical theory; although, if anything, my understanding of power as a concept is informed predominantly by Foucault. My emancipatory intentions are focused on oppositions,

conflicts and contradictions, and by uncovering these I seek to provide information and a perspective on students' meanings of ICTs that can be used to eliminate the causes of alienation. Given my role in the research and within my institution, it is realistic to be aware of the limitations in this regard.

3.8.2 WHAT IS DISCOURSE?

I find Gee's understanding of D(d)iscourse the most useful. Little d Discourses refer to individual texts – language in use, in this study, the written responses of a person to the open-ended questions from a survey. Big D Discourses refer to identity; not individual identity but group identity – a way that an individual thinks, speaks and acts that is recognised by others in relation to the social world. I do not use discourses to mean the way people speak or the ideas of ideologies that people draw on. For this, I refer to Gee's Big C Conversations, which are external societally-recognised ideas that individuals draw on in their discourse.

3.8.3 WHAT IS ANALYSIS?

In this thesis, I have adopted a mixture of Fairclough and Gee's approach to CDA.

Fairclough's very detailed approach to language analysis was not appropriate in my context, as the language I was working with was often fragmented and didn't contain the usual formal components of grammar. In addition, in trying to identify discourses in the ideological sense, it was not very helpful. Gee, on the other hand, focused much more on social variables, such as action, context, power and ideology and then, as an aside (well, in an Appendix, actually) he mentions that it can also be useful to analyze text at the level of grammar but offers less detailed advice on process compared to Fairclough.

Consequently, I have utilized Fairclough's dimensions of discourse as an analytical guide to move between the text, discursive level and social practice. My analysis begins at the textual level where I undertake linguistic analysis of components that are evident in the genre of text, drawing on Fairclough and the way he understands linguistic features that elucidate agency and modality, as well as questions from Gee's analytical process that relate directly to context, situated meaning, power and

identities. At the discursive level, I inspect the external Conversations which are evident and then examine the relationship between text and interaction at the level of social practice to determine how students' technological identities are constructed.

This approach of utilizing aspects of these two theorists is not new. In her book *Critical Discourse in Education*, Rogers (Rogers 2004a) notes how she uses Gee's theory of Discourse and Fairclough's orders of discourse in her research; whilst others in the book, Young (Young 2004) and Rowe (Rowe 2004), also combine various aspects of the two approaches.

3.8.4 WHAT IS CONTEXT?

Positioning a discourse within a context is essential in CDA as the theory is based on the premise that everything we say is socially and culturally produced. However, context is a concept that can be both infinitely big and infinitely small. Thus, I have taken as my starting point the context the students refer to and then filled in the gaps around that. One of Gee's central building tasks in his analytical framing is to ask of the text what sorts of connections are made to other people, ideas, texts, things, and institutions both within and outside the current situation.

4 METHODOLOGY

4.1 INTRODUCTION

As outlined in Chapter 3, my research operates from a critical theory paradigm. One of the criticisms that have been leveled at critical theorists is that they have tended more towards the conceptual than the empirical (Doolin and McLeod 2005). This thesis addresses this limitation by being firmly grounded in the empirical. However, a balance has been sought to ensure that the thesis does not sink into what has been called "*authoritative and definitive accounts of empirical reality*" (Doolin and McLeod 2005, p247) but seeks to focus on the key elements of a critical enquiry, namely the dynamics of status, power, distribution of social goods and solidarity.

In order to achieve this, I have drawn on the CDA approaches of Gee and Fairclough to examine linguistic features at the textual level, focus on how texts draw on external Conversations at the discursive level and then examine the relationship between text and interaction at the level of social practice to determine how students' technological identities are constructed.

I am explicit about how I draw on Gee's notions of Discourse and Conversation and Fairclough's three levels as conceptual tools. As Weiss and Wodak (Weiss and Wodak 2003) point out, this is essential in order to enable the connection between the linguistics and the sociological elements. I draw on the four analytical concepts outlined in Chapter 3, namely meaning, context, identity and power; as these define the object of the research that is the question and content of the study. I then focus on discursive types and the linguistic features that demonstrate modality and agency as indicators within the texts.

4.2 METHODOLOGICAL APPROACH

Given the focus on language, the majority of the data on which I have drawn is qualitative. Whilst CDA is more frequently used in the analysis of formal texts like policy documents, there has been a more recent move to using and encouraging CDA in new emerging texts and discourses (Luke and Dooley 2011). In this thesis, I

utilize text responses from open-ended survey questions. As van Dijk notes, as long as the texts yield insight into the crucial relationship between discourse and social power, then the use of CDA as an approach is valid (Van Dijk 1997).

Drawing on this type of data has also given me an added advantage of a large corpus of texts. This has been one of the more recent recommendations for CDA research, as Orpin (Orpin 2005) notes explicitly that CDA has been criticized for its qualitative approach tending to be fragmentary and exemplified and that the data is often not representative; since little data is analyzed and selection is normally random. By drawing on a large body of data, I am able to make more reliable generalizations and connect the qualitative findings back to the quantitative data from the survey.

As such, this approach could be classed as a mixed-methods approach (Creswell 2009). I am conscious that some people may consider qualitative and quantitative data to be at odds with each other. Like others (Trochim 2006), I feel that the difference is in the approach one takes to the data and not in the data itself.

4.3 THE STUDY

This thesis draws on two studies of students' access to and use of ICTs conducted during 2004 and 2007. The 2004 study was a cross-institutional collaboration in the Western Cape, South Africa funded by the Carnegie Corporation. It involved a survey across (what was then) five tertiary institutions, namely the Cape Technikon, Peninsula Technikon, University of the Western Cape, University of Cape Town and Stellenbosch University. In total, 6,553 students responded to the survey.

The "Access and Use" project came about through the need to collect baseline data on what access university students really had to ICTs (in a highly multi-faceted sense) and what use (or non-use) they were making of ICTs for learning purposes (Czerniewicz and Brown 2006). The overall purpose was expanded as the project report notes *"this research offered an opportunity to move beyond descriptive fact gathering the opportunity to design a richer and more complex and nuanced analytic investigation, one which enabled identification of relationships and patterns both within and between access and use"* (Czerniewicz and Brown 2006, p8).

As a researcher on this project, I became aware that within the timeframe of the project, we just could not do justice to the richness of the qualitative components of the survey. It was in 2005 whilst developing my PhD proposal that I decided to draw on this data as part of my thesis, and the 2004 data became my pilot study.

In 2007, with National Research Foundation funding, the "Access and Use" project was expanded beyond our region. This subsequent survey involved 3,533 students from six universities across South Africa, namely the Universities of Johannesburg and the Witwatersrand from Gauteng, Rhodes University and Walter Sisulu University from the Eastern Cape, North West University from the North West Province, and the University of the Free State from the Free State Province (Brown and Czerniewicz 2008).

By this stage, I had undertaken a pilot analysis of the data, developed and refined my analytical framework, and begun a preliminary analysis of the data. If I had thought the qualitative data from the 2004 survey was rich, the 2007 data was even more so. In the 2004 sample, 80% of students answered at least one of the questions with a small group of 10% responding to half of the open-ended questions. In the 2007 sample, the response to open-ended questions was even higher, with 98% answering at least one of the questions and 30% answering at least half of the open-ended questions.

I therefore began working with the 2007 data and this became incorporated as the core data for my research.

4.3.1 SURVEY

As mentioned in the previous section, this thesis focuses specifically on qualitative responses to open-ended questions. There were six specifically-worded, open-ended questions and two general comment questions.

Part A was "Access to ICTs", with the acronym ICTs (Information and Communication Technologies) to refer to computers, computer infrastructure (including the Internet), software, and associated technologies such as data-projectors and mobile phones. Students were asked five questions about their access to ICTs on their university campus and eight questions about their access to

ICTs off campus. They were then asked nine questions about their experiences using ICTs.

Part B focused on "Using ICTs" and covered use socially, by students' lecturers and by the students in terms of their use of ICTs as part of their studies. The final section sought to capture information about the students themselves.

The eight open-ended questions were positioned at the end of each section and were phrased in various ways to capture positive, negative and neutral experiences. However despite the prompting, students didn't necessarily limit their responses to answering the question. The space was used variously to voice issues students' felt strongly about by either reiterating issues raised in the quantitative questions preceding the open answer section or raising new issues that hadn't emerged in the preceding questions. The entire survey is contained in Appendix 1 with an extract of the open ended questions highlighted in Table 4-1.

Table 4-1: Open-ended questions from the 2007 survey

Survey question and number	Reference *
Section A: Access on campus	
How do you access ICTs ON your university campus?	
A6: What makes it hard for you to access ICTs on campus?	Q1
A7: What helps you in terms of your access to ICTs on campus?	Q2
How do you access ICTs off campus?	
A16: What makes it hard for you to access ICTs off campus?	Q3
A17: What helps you in terms of your access to ICTs off campus?	Q4
Section B: Using ICTs	
B17: What don't you like about using ICTs for learning?	Q5
B18: What do you like about using ICTs for learning?	Q6
B19: Are there any additional comments you would like to make?	Q7

* number referenced in student texts

4.3.2 DATA COLLECTION

Whilst the project was conducted by a research team at UCT, we relied on institutional collaboration for the data collection. Both the 2004 and 2007 surveys followed the same data collection strategy. Surveys were sent to our collaborators at each institution for comment and input, and a covering letter was written by an appropriate senior manager from each institution supporting the research and highlighting its relevance for the institution concerned. The institutional collaborators then assisted in the data collection by administering paper-based surveys and providing local links to the online survey.

Ethical clearance was submitted for both surveys to relevant research committees (see Appendix 2). The process for research ethics approval differs between institutions. At the University of Cape Town, it is faculty based and, as the surveys were funded within the Centre for Higher Education and Development, the ethical approval was sought from that faculty research committee. In addition, some universities required that ethics approval be obtained by their institution as well. Consequently, additional submissions were made when required.

Students were provided with an information sheet attached to the survey that outlined the research project (see Appendix 2) and were advised that by completing the survey, they were providing their informed consent for the researchers to use the data. Confidentiality was not an issue in the 2004 survey as students undertook it anonymously. However, in the 2007 survey, students could elect to provide a contact name and phone or email details and stand to win a prize. Despite this personal identification, their confidentiality was assured and was utilized only for the purpose of awarding the prizes and to follow up subsequently via telephone for Phase 3 of the Access and Use project.

The data capture for the surveys was done in Microsoft Excel. Consequently, qualitative and quantitative data resided in the same place. For the purpose of this thesis, the survey was initially sorted and respondents without any responses to open-ended questions were excluded. This brought the total potential sample for this research down from 6,577 for the 2004 sample to 3,086, a drop of over half. In 2007,

however, students responded much more extensively to the open-ended questions, with 3,144 students writing some form of response (see Table 4-2).

Thus, although the 2004 survey had nearly double the respondents compared with the 2007 survey, the dataset with which I had to work was largely the same.

In addition, in the 2007 dataset, respondents answered more open-ended questions (64%) compared to the 2004 respondents (20%). They wrote more (average response length was 28 words compared to 17 words) and they produced a greater corpus of text.

Table 4-2: overview of responses to open-ended questions in the two surveys

	2004	2007
Total respondents	6,577	3,533
Total respondents with qualitative data	3,086	3,144
Respondents who only answered one qualitative question	1,397	225
Average qualitative questions answered	2.2 (out of 10) – 20%	4.5 (out of 7) – 64%
Average words in responses	17	28
Total words	54,746	85,753

4.4 ANALYTICAL APPROACH

4.4.1 SETTING UP DATA

As mentioned previously, students' responses to the open-ended questions were initially captured in an Excel spreadsheet. These responses were then imported into Nvivo using the process described in the QSR document "*Preparing your table data for Nvivo 7*" (QSR International no date).

This involved saving demographic data as a separate spreadsheet and then exporting it as a Unicode file. A Word document was then set up for the question responses using headings and styles and then merged with the spreadsheet from Excel that contained the responses to the questions. Both these files were then imported into Nvivo. They were linked by means of auto-coding at heading level which generated cases. The casebook was then imported and the demographic data correlated to each participant case.

The data was then coded using Nvivo's free node function. As the definitions of each code changed, this was incorporated into the Nvivo coding descriptions. The codes were also able to be linked with the students' demographics and answers to the quantitative component of the survey using Nvivo's matrix coding query feature. This enables a cross tabulation of codes and attributes (demographic variables) or even codes and other codes. The matrix output can be viewed by case, source or reference. The ability to conduct such mixed method analysis has the added advantage of enabling the examination of coded text in terms of students' social groups and reported ICT practices. For example coding nodes were compared in matrix tables in terms of average use of ICTs for learning, levels of access and various demographics.

Analysis involved an iterative process over a long period of time that entailed visiting and revisiting the data. This is important in qualitative research as one needs to ensure validity and consistency across datasets (Miles and Huberman 1994). As this was my own work, I did not use another person to code check with me but rather was rigorous in recording the definition of my coded items and its change over time as I was going along. I found myself alternating between Nvivo and Excel as tools for coding and analyzing data.

4.4.2 USED 2004 AS PILOT

My initial analysis was exploratory as I knew I was going to utilize a Critical Discourse Approach but not how I was going to actualize this. As I mentioned earlier, I started with the 2004 sample by reading through respondents' textual responses. As expected, respondents who answered more questions had a greater number of

words on average. The more verbose their textual responses, the more possible these were to analyze in terms of their discourse.

Table 4-3: Overview of 2004 qualitative data showing the number of questions answered by respondents, their average word length and the percentage that was included within the analytical group

Number of questions answered	Number of respondents in category	Average words	% that became part of analytical group
9	20	84	85%
8	68	49	47%
7	45	52	36%
6	98	36	30%
5	89	38	36%
4	248	27	14%
3	334	31	16%
2	780	16	5%
1	1,397	10	2%

Usually once respondent's texts were less than 17 words, I found the texts too fragmentary to enable any CDA. Consequently, I limited my analysis to a corpus of 840 respondents. The quantification of the qualitative data provided in Table 4-3 is to give the reader some idea as to the nature of the corpus of text. Whilst the qualitative response rate to the survey was very high, in order to undertake the primary analysis, I needed a fairly substantive response to work with. Those students who answered only a few questions and tended to use fewer words tended to just make statements about problems or benefits, e.g. access or the laboratories, as opposed to those who wrote more discursively about their use and opinions of ICTs.

I thus began my analysis by working through the responses in the order of most discursive (i.e. greatest number of words) to least discursive (least number of words).

I realized that before doing analysis, it would be difficult to know what aspect of the linguistic analysis was going to be the most fruitful. Fairclough guiding questions and

accounts regarding how to conduct a critical discourse analysis were helpful but sometimes hard to follow for a non-linguist (Fairclough 2001, 2003). I found Janks's account of how to use Fairclough's approach to identify linguistic features that are key to analysing texts very useful in my pilot stage and systematically worked through all the linguistic features which I could identify within the genre of my texts (Janks 2005).

It is important to note that the process of both production and reception of the texts were socially constrained. The text was handwritten under time constraints with minimal page/line space. As one would expect, it was succinct in style, informal, often written in phrases and not in sentences, grammatically incorrect, blunt and with spelling errors. Whilst the open-ended questions prompted students to write about both positive and negative aspects of computer use in higher education, human nature suggests that they were more likely to spend time on this aspect if they had a negative issue to comment about. These issues needed to be considered in developing the analytical process.

The example below taken directly from a student's responses to the open-ended questions provides the reader with a better idea of the genre of the texts.

*Q1, internet, I did computer microsoft words in CPP and this year I could not continue with BRS 111 because I do not have a bursary im responsible for all my fees, books and hostel fees but id like to know more about internet, Q2, computers, Q3, internet, Q4, , Q5, ICTs are helpful, Q6, Improve my learning and studying easier Q7, I think my marks in general in all courses will improve if I can know or have access to the internet and have skills
ID-2074,*

The texts can be read in tandem with Table 4-1 where the shorthand code "Q1" refers to question A6 from the survey, "Q2" refers to question A7 and so on. In future direct quotations, I have corrected the spelling where it doesn't affect the meaning, as this can be distracting to the reader.

4.4.2.1 PILOTING THE CDA APPROACH

After reading through the texts, I selected samples from 30 students. I picked those students who had responded to at least half of the open-ended questions as this gave me a larger body of text to work with for each student. I also tried to select students from a variety of institutions and demographic groups as well as students who were deemed (from the quantitative data) to have both good and poor access to ICTs and to make both frequent and infrequent use of ICTs.

I started by looking at each "paragraph" at a sentence and word level. I used Fairclough's ten questions as a guide for analysis (see Table 4-4).

Table 4-4: Adaptation of Fairclough's ten questions (Fairclough 2001)

Vocabulary
1. What experiential values do words have?
What classification schemes are drawn on?
Are words ideologically contested?
Is there rewording/over wording?
What meaning relations are there between words antonyms ,synonyms, hypernyms?
2. What relational values do words have?
Euphemistic expression
Markedly formal/informal words
3. What expressive values do words have (e.g. labels, connotations)?
4. What metaphor systems are used? Metaphors bring mappings and entailments, and so can express a particular ideology.
Grammar
5. What experiential values does grammar have?
Process and participants e.g. actions (2 participants) events (1 participant animate or inanimate) attributions (1 participant)
Is agency unclear?
Are processes what they seem?
Are nominalizations used (look at tense)?

Are sentences active or passive?
Are sentences positive or negative?
6. What relational values does grammar have?
Modes (declarative/grammatical question/imperative)
Relational modality (level of authority)
Pronouns such as "we" and "you"
7. What expressive values does grammar have?
Expressive modality (may = possibility, must = certainty/obligation, can't=impossible, should = probable)
8. Are simple sentences linked?
Logical connectors (even though, as a result of)
Co-ordination/subordination (presupposition or insinuations)
Inside/outside references (he, she, it, this, that, the etc.)
Textual structures
9. What interactional conventions are used?
Turn-taking system
10. What larger scale text structures exist?

Some of the components of Fairclough's features were easier to determine than others. I found it hard to examine the textual structure, given the type of text I am dealing with.

The easiest aspects to uncover in the text were those related to experiential and relational values of grammar; specifically agency and modality. In terms of Fairclough's dimensions of meaning, these are cues for knowledge/beliefs (how interlocutors' experience of social-physical world is represented – experiential) and social relations (how interlocutors' social relations are represented in the text – relational).

I proceeded with the analysis for the 30 samples and provide below examples of three contrasting ways in which students responded to the open-ended questions.

 4.4.2.2 STUDENT 1

It helps me to communicate with family and friends, when comps are not printing, help find jobs, if only our institution can try to locate comps in our rooms so the make things easy and give us a chance to be aware of technology changes. all i want is we must have access to comps without any limitations and help us with the printing bill because its not fair to us as students.

Second year, isiXhosa-speaking female student from low socio-economic group at a previously-disadvantaged institution.

Ideologically: Notion of unfairness in "because it's not fair"

Rewording: Printing, help

Euphemistic expression: If only, give us a chance, help us

Agency is clear

Process/Participant: Action because there are two participants – Institution doing something to student "institution (subject) locate (verb) computers (object) in our room (subject again)"

No nominalizations: Causality and attribution is clear

Passive

Both positive and negative

Mode: Declarative – Subject position of the writer is that of giver of information

Modality: About categorical commitment to the truth – modal auxiliary verbs

Must = certainty "must have access" relational (authority of writer in relation to others)

Pronouns: Our, us, we (signals inclusion – not just about the writer but about a larger group)

Logical connectors: So = cohesion (computer in room = make things easy)

Inside/outside references: INSIDE the text, family, friends/students, institution

This student seems to see herself as a spokesperson for others. The use of pronouns signals inclusion. However, whilst she makes an ideological statement about lack of equality, she is softening this with the use of euphemisms and incorporation of both positive and negative words. Whilst clear about the institutional responsibility (causality and attribution is clear and her use of modal auxiliary verbs indicates authority) she is not demanding and chooses to connect her (and others') need with positive outcomes.

4.4.2.3 STUDENT 2

i can get access to a computer at any faculty where i am registered. i dont have a computer at home and have to ride a bicycle to campus to work on a computer nothing! i dont have a computer, but i really would like one, the help function is very useful, the usually restart or "hang" right in the middle of a important document, getting answers quickly and sending e-mails to lecturers, nothing. yes, have you gotten a computer for me yet?

First year, Afrikaans-speaking male student from low socio-economic group at a previously-advantaged Afrikaans university.

Over wording: "don't have a computer"

Metaphor for computer: Hang

Process/ Participant: Attribution - one participant "I (subject) can't get access (verb) to a computer (complement)"

Agency is clear

Sentences are active and mixed positive and negative

Mode is a mixture of declarative and grammatical questioning (providing information and including the addressee in proving information or solving a problem)

Pronouns: You (really only addressing one person and focusing on issue related to writer alone)

Modality: Relational? Writer has a strong sense of truth and authority – e.g. can, don't

This student has addressed the issues entirely from his own perspective and is seeking resolution only for himself. The issue is clear (there are positive benefits if he can get a computer), worded more than once and the solution is directly requested (he has a strong sense of truth and authority).

4.4.2.4 STUDENT 3

Assistants, slow servers lab opening times, reliable equipment, no internet access/connection to online journals, slow computers, would like to see more up-to-date equipment in the humanities and more computers made avail. slowness, are more of a supplementary role that an entity unto itself.

Third year, English-speaking male student from high socio-economic group at a previously-advantaged English university.

Ideology: Computers not the answer

Over wording: Slow x 3

Euphemistic: Would like to see

Process/ participant: Hard to determine

Agency unclear – Could be the computer?

No inclusion of anyone else through use of pronouns

Also passive (which with unclear agency suggests causality unclear), not assigning any responsibility

Mode: Declarative (providing information)

Modality unclear

Inside: Assistants, faculty

This student provides information about a problem (which is stated more than once in a very clear manner). However, whilst including others in the text, he is undefined about agency and causality, and shies away from making the issues personal or suggesting who should take responsibility for it.

4.4.2.5 DISCURSIVE LEVEL OF ANALYSIS

One aspect of interest that emerged as evident in the data as I was conducting this pilot was examination of people's world views on ICTs.

Ideologically, it was possible to discern references to ideas of advantage and disadvantage. This differed in terms of how people perceived their disadvantage.

Sometimes it referred to race:

Read general articles on course, selfishness of the computer lab staff that sometimes discriminate other races, e.g. blacks, make internet avail in uwc residences because the computer labs are too few to accommodate everyone computers very slow and some labs used for computer classes. gives chance to read more on our course through web. computers are essential for learning.

Young African male from high socio-economic group at a previously-disadvantaged institution.

And sometimes to gender:

loads of computers, Most of my classes are on the other side of the school and the breaks on this side tend to be short, Nothing, money and many people in demand of use of computers, not knowing enough about computers, In some residences students have network points in their rooms which is a major help when studying and doing

assignments. In my res 1st year students do not have network points which limits our access to the internet and puts us female students at a disadvantage, Internet,

Young female from high socio-economic group at a previously-advantaged institution.

There were fewer comments about the advantages that students had in terms of use of ICTs but in this one example, this student notes the privileges that ICTs offer.

When i need important info, i am allowed the privilege of doing research, it is quite a distance from where i live, i am able to complete my own work on time, i would really appreciate it if there would be an additional computer course attached to my studies so that doing the course would not be that hard for me

Young, English-speaking female from a low socio-economic group at a previously-advantaged institution.

There were also some ideas about ICT that related to globalization.

Computers being essential:

Contact with the world at large, unclear, see the world in the other way, saturdays and sundays no open labs, create opportunities for students open the labs and get more lab assistants and in a way you will be creating employment and making students lives easier and enjoyable.

South African male from low socio-economic group at a previously-advantaged institution.

And fear of computers taking over by being impersonal:

Expensive to print in comlabs, the comps in uct are wonderful to use – efficient but not always reliable, e.g. sometimes i cant access my degree program or send e-mail. the main problem though is that there arent enough comps. comps are good to obtain info from and type out assignments but should not be used for communication except in businesses because it takes away the human face-to-face contact.

Demographic details not provided

4.4.2.6 CONCLUSIONS

My conclusions at the end of undertaking this analysis of a sample of the data were that students' world views of ICTs were core to my understanding of their technological identity. I found Fairclough's analytical model of the experiential and relational linguistic features within texts as well as the discursive practice useful but not enough in trying to understand what was emerging in my data. I thus began to draw on Gee's notion of discourse as an additional way of unpacking these concepts. However, where I found Gee more valuable at the level of unpacking world views, I found Fairclough more effective at the level of textual analysis. I thus drew on Fairclough's use of linguistics features namely modal verbs and pronouns (which were consistently present in the informally worded responses to the open ended questions) to examine how modality and agency relate to students social relationships, and their conceptions of reality in relation to themselves and their social identities.

4.4.3 MAIN STUDY

The main analysis was centered on the 2007 sample of 3,144 students for whom I had qualitative data. As per the pilot, I sorted these in terms of word frequency and began working through the responses in order of most discursive (i.e. greatest number of words) to least discursive (least number of words).

As I had identified "world views" as a central feature of the text, I began the analysis by identifying discursive types in the text using a semi-grounded approach. Having undertaken an extensive literature review of prevalent discourses about technology, I had a sense of potential themes that I might find within the data. I initially selected a small random group of texts and read through them identifying recurrent themes. I then sorted the texts according to the initial categorization and read through my first level coding as a group, adjusting and refining the categories until a consistent theme began to emerge. I then expanded my corpus (having learnt from the initial process that it is usually pointless reading "bits of text" less than 17 words in length). I applied my definition to the expanded text and continued coding in this way.

This process was an iterative one as whilst reading through the texts, I refined the definition and description of the various themes which would then involve a reiterative process of coding.

Once I had categorized the sample in these themes, I worked with a subset of the texts from within each theme and sought to unpack what I could find about how students viewed their ICT identity through the texts (Gee 2005). I sought to unpack what this tells us about how students think, feel, value and use ICTs for their learning, as per Lankshear and Knobel's use of Gee, and describe what I could tell about how students (who were operating from within a particular discourse) viewed the world (Lankshear and Knobel 2007).

Gee recommends asking questions about seven building tasks namely building significance, activities, identities, relationships, politics, connections and sign systems and knowledge (2005). Not all the building tasks and questions were relevant to my analytical concepts nor were they always possible to answer in terms of the texts I was working it. Table 4-5 shows the questions I used relating to Gee's

“building tasks”. The headings in bold are my analytical concepts and the number in square brackets afterwards eg [Q6] indicates the number of the question from Gee’s analytical framework.

Table 4-5: Selection of focusing questions relevant to the study drawn from Gee (Gee 2005)

Gee’s building tasks and related focusing questions	
Context	
What is the larger or main activity going on in the situation? [Q6]	
What sorts of social relationships seem to be relevant to, taken for granted in, or under construction in the situation? [Q12]	
What sorts of connections are made to previous or future interactions, to other people, ideas, texts, things, institutions, and Discourses outside the current situation – inter textuality? [Q19]	
Situated meaning	
What is the situated meaning of some of the words and phrases that seem important to the situation? [Q1]	
I-Statement and modality	
Power	
What social goods (e.g. status, power, gender, race, class) are relevant (and irrelevant) in this situation? [Q16]	
Identities	
What identities (roles, positions, with their concomitant personal, social and cultural knowledge and beliefs (cognition), feelings (affect) and values, seem to be relevant to, taken for granted or under construction in the situation? [Q9]	
How are identities stabilized or transformed in the situation?[Q10]	
What social languages are relevant (or irrelevant) in the situation? How are they made and in what ways? [Q 25]	

This process led me into more critical description of each discourse. A further analysis of how students within each discourse group utilized modality and agency was also drawn into the analytical process at this stage. An automated text query was conducted for the presence or absence of the first, second and third person

pronouns as well as their possessive and the objective form and for modal verbs and adverbs.

Agency was grouped together in terms of Individual agency, collective agency, and reference to a third person (see Table 4-6). Modality was grouped together in terms of strong, moderate and weak modality (see Table 4-7).

Table 4-6: Grouping of pronouns in terms of agency

Type of agency	Pronouns and forms
Individual	I, my, mine
Collective	we, us, our
Third person	he, she, it, they, you as well as references to other people or roles eg lecturer, tutors, classmates/ peers, students, the university.

Table 4-7: grouping of modal verbs and adverbs in terms of degree of certainty

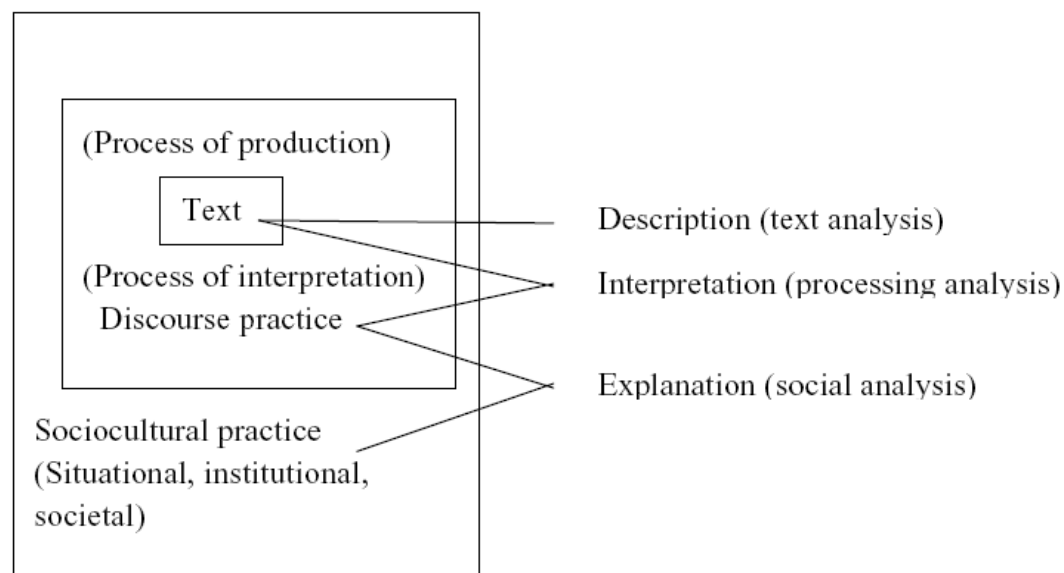
Degree of certainty	Modal Verbs/Adverbs
Strong	is, will, can not, must, undoubtedly, always, never, definitely,
Moderate	should, would, can, ought to, tends to, usually, likely, probably, regularly, majority, generally, often, frequently, rarely
Weak	May, might, could, possible, conceivable, sometimes, occasionally, seldomly, perhaps, maybe, uncertainly,

An individual may have given no indication of agency or made no use of modal verbs/ adverbs. In this case they were categorized as having “no agency” and showing “no modality”. In contrast each reference to these linguistic features was counted.

In the process of analysis I moved between Fairclough's three levels of discourse practice (see Figure 4-1). In the centre is the object of analysis (text); surrounding that is the process by which the object is reproduced (practice); and on the outside

the socio-historical conditions which govern this process. Each of these dimensions requires a different type of analysis, namely "*description of the text, interpretation of the relationship between text and interaction and explanation of the relationship between interaction and social context*" (Fairclough 2001). Analysis at the text level concentrates on linguistic features (vocabulary, grammar, syntax). At the discursive level, analysis focuses on how authors of the text draw on already-existing discourses and genres in the consumption and interpretation of the text. Whilst analysis of the relationship between text and social practice involves looking at how the discursive practices reproduce or restructure the existing order of discourse and what consequences this has at a social level.

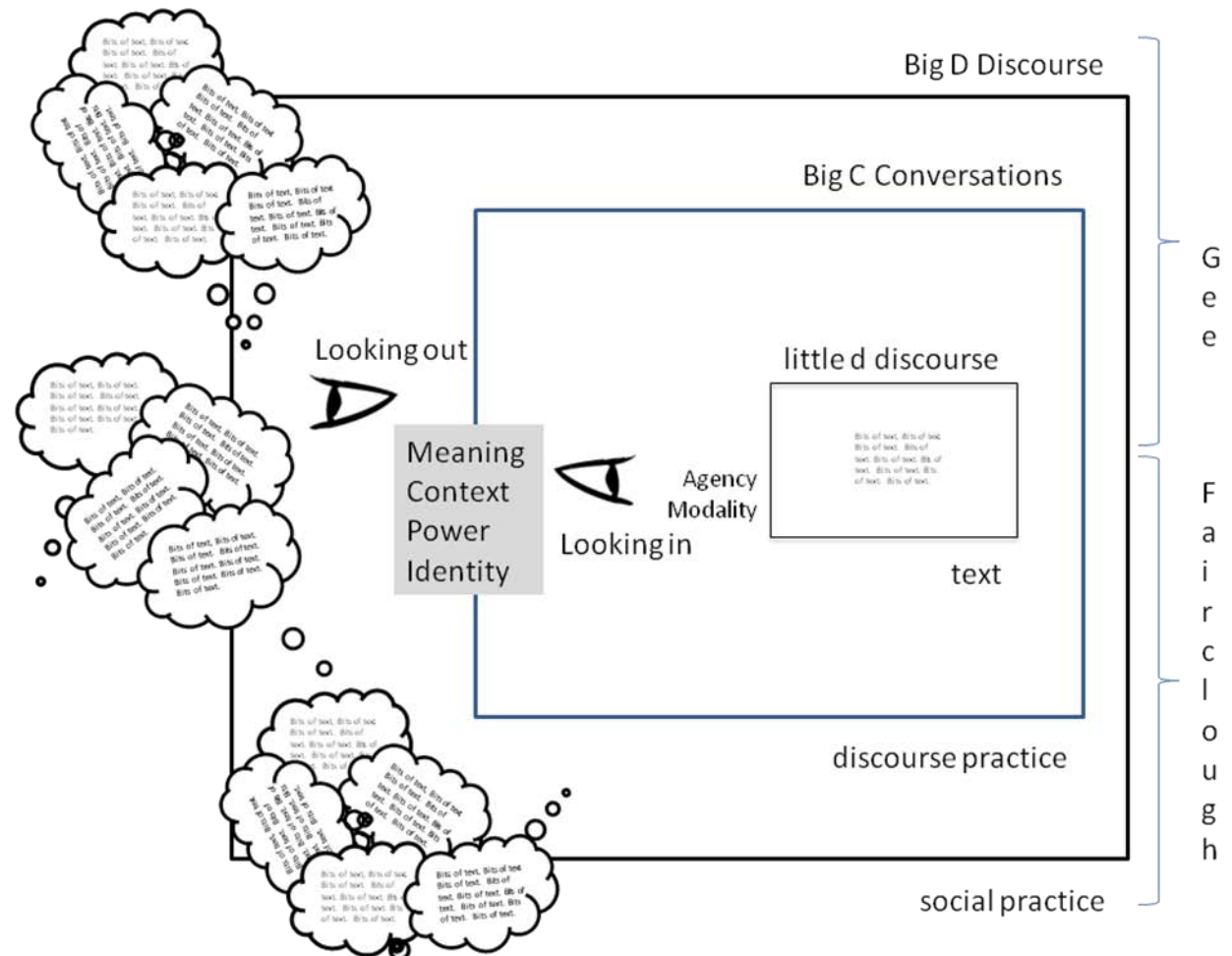
Figure 4-1: Fairclough's three levels of discourse analysis (Fairclough 2001)



However whilst this three level model was integral to my analytical approach, I found myself thinking about the process in a way that integrated concepts of both Gee and Fairclough together with key analytical constructs.

I have tried to encapsulate this in Fig 4-2. I started my analysis in the middle, at the level of what Fairclough calls the discourse practice. Here I focused on Gee's concept of Big C Conversations and I identified various world view surrounding technology and its use in education.

Figure 4-2: Fairclough's three levels of discourse analysis (Fairclough 2001)



I then looked out to the level of social practice and grouped these Conversations into themes (represented on the outskirts of the figure below as clouds containing individual texts). Then I looked back in at the level of the individual texts or as Gee calls it little d discourses. Here I focused on my analytical constructs of meaning, context, power and identity (and used Gee's guiding questions as a tool to unpack these) as well as the linguistic features of agency and modality (where I drew on Fairclough for their interpretation in terms of experiential and relational values). I then used Gee as a lens to look back out at the level of social practice and understand what Big D Discourses existed and what this could tell me about students' technological identity as a group.

4.4.4 FINAL SAMPLE

In terms of the nature of the CDA, the students who completed more of the open-ended questions tended to provide better data for analysis (although there were some students who only answered one open-ended question but provided quite lengthy, insightful texts). So the majority of my sample is drawn from students who made a larger contribution to the open-ended data within the survey. The final sample comprised of 840 students' texts drawn from the qualitative data from the 2007 survey (the entire dataset used for this analysis is provided in Appendix 3).

In terms of how the data is reported, I discuss the frequency of Discourse occurrences within the sample of text. Two hundred and fifty six students had two Discourses evident in their texts (in the coding process I limited the categorization to the two most dominant Discourses). Consequently when discussing the frequency of Discourses I report on the numbers of **instances** of Discourse (which total 1096) and not the number of individuals with a particular Discourse. Also whilst the sample of individuals is 840, not all individuals exhibited evidence of agency and modality in their texts, and some individuals exhibited more than one type of agency or modality. Therefore the sample counts for the overall and Discourse samples vary. I have chosen to represent the prevalence of agency and modality visually as the absolute values are not meaningful of and in themselves, and rather show the dominance of various types of agency and modality and some subtle differences in these between the Discourse groups.

4.4.5 DEMOGRAPHIC DIFFERENCES WITHIN THE DATASET

As Discourses are also connected to a particular social groups' "ways of being" in the world (Gee 1996), the groupings were also examined in terms of students' demographic background (focusing on gender, age, socio-economic background and home language) as well as their ICT background in terms of access, experience and self efficacy. It was also important for me to establish what connection students' Discourses may have on students' ICT behaviors, namely their frequency and type of use. Whilst this data is represented graphically, again its representation is to look at patterns and highlight areas that require further interrogation of the data. The data

represented here enables a view of the demographic distribution of the Discourses in two ways. A percentage (out of 100) on the vertical axis shows the distribution of Discourses within each subgroup. The horizontal axis provides a visual representation of each demographic category as a proportion of the total responses for each Discourse grouping.

Comparisons were then made between different demographic groupings of students within the Discourse groups. In some cases, these related directly to questions (for example students were asked their gender in question C8 – see Appendix 1). In other cases, the comparison was made with an index calculated from a group of survey questions (for example socio-economic background) or with new categories grouped from a range of responses to a question (for example age categories) (see Table 4-8).

Table 4-8 : Details of the comparisons made with the survey data and how they were derived

Variable	Survey question(s)	Category	How the index was calculated
Gender	C8	Male/female	
Age	C5	<22 years 22-26 years >26 years	
Socio-economic background ⁵	C10, C11, C12	Low Average High	This index was calculated on a cumulative score of three items: 1. Occupation of primary breadwinner; 2. Highest education level of primary breadwinner; 3. If they were the first person in their immediate family to go to university. The index was then divided into three groupings.
Language	C7	Afrikaans English South African language of African origin	The following languages were grouped under "South African language of African origin": isiNdebele, Sesotho, siSwati, Sepedi, Xitsonga, Setswana, Tshivenda, isiXhosa, isiZulu

⁵ This index was used for the access and use project, where it was acknowledged that determination of socio-economic status was complex (Higgs 2002). However, the approach adopted was based on the "*potential income of the primary breadwinner, a measure that includes variables collected by the South African Census such as education, occupation status and occupation group*" (Czerniewicz *et al.* 2006). Whether or not a student was the first person in their family to attend university was also included as this had been determined to be another particularly effective measure of socio-economic status in Australia (Barraket and Scott 2001).

Variable	Survey question(s)	Category	How the index was calculated
Experience	A 18	Low Average High	Low = <4 years ago Average = between 4-10 years ago High = > 10 years
Access off campus	A8, A9, A11	No access Third party access Personal access	Third party access = internet café, friends, school, community centre, library Personal access = access where you live, through a mobile phone, or at work
Self efficacy	A25	Low Average Good	Low = poor Average = average Good = good and excellent
Frequency of use	B6, B7, B13, B14	Below average Above average	Students' average use of ICT for learning was calculated <u>across 26 activities</u> and then compressed into a single index that captures whether a respondent had a below- or above-average use compared to the entire sample
Variation of use ⁶	B 1, B6, B7, B13, B14	Below average Above average	Students' average use of ICT for learning was calculated <u>for five activity groupings</u> , namely social, communication, information, activities, production

⁶ The organization of categories of use was based on Laurillard's Conversational Framework of media forms, namely interactive, communicative, adaptive and productive (Czerniewicz and Brown 2005b)

4.5 LIMITATIONS

It is important to note the demographic characteristics of students within the entire dataset and then compare these to the students whose data I work with closely in this thesis – that of the discourse subset – as neither are representative of the whole.

For example students made the choice in the first place to answer the survey. Also, whilst the survey respondents do generally represent the demographic variability of higher education students in South Africa, they by no means account for all types of the sector's students.

When completing the survey, there was a further self-selection as some students choose to write responses to open-ended questions in order to make their opinions clearer. Then again, some students took time to write quite careful and detailed comments about their experiences whilst others were much more succinct and matter of fact.

So there is quite clearly a sampling bias at the various stages of the data collection and extraction. However, having acknowledged this, I don't believe this negates the value of the data. It is just important to know the samples' limitations so that interpretation of the data can be undertaken with these in mind.

5 FINDINGS

5.1 INTRODUCTION

This chapter is divided into three sections. Section 1 introduces the six themes and provides an analysis of each using the various analytical and conceptual tools described in the previous chapters. Section 2 makes the case for the consideration of these themes as Discourses and starts to compare and contrast these with each other. Section 3 provides a picture of the dominance of the various Discourses across the entire corpus of text, i.e. the "big picture"; and looks at some interesting aspects, such as differences in terms of demographic groupings and relationship to use of ICTs.

Given that I am working towards making a case for Discourses of technology I have consciously structured the findings in a way that shows how I used the analytical constructs to look in at the level of individual texts (Section 1). I then explain synergies between the texts that can be interpreted as development of a socially-meaningful identity (Section 2) and then provide a picture of the prevalence of these Discourses across the corpus, and the connection Discourses have to different social groups of students.

5.2 SECTION 1

As per Thompson (2004), I am conscious of the subjective judgments that I have made in relation to interpretation. As a critical discourse analyst though, I believe that my interpretations are never absolutely final and are only the best interpretation that I could make with the data I was working with. Thus, analysis is always open to interpretation and as such I provide samples of exemplary text from the larger sample of texts used in the analysis (the entire dataset used for this analysis is provided in Appendix 3). This illustrative manner of reporting is standard practice amongst qualitative researchers as it is not possible to describe every instance of text (Elliott, Fischer and Rennie 1999; Wilson and Wong 2003; Wilson 2003). It also

has the added advantage of enabling a reader to make an independent judgment of the text.

The findings are structured around the identified themes. Within each theme, exemplars of text are provided and analysed at the three levels of description of text, interpretation of discursive practice and explanation of social practice, as per Fairclough's dimensions of Discourse and as exemplified by others (Ng'ambi 2008; Roode *et al.* 2004; Thompson 2004; Tu and Kvasny 2006). These examples contain the entire set of responses an individual student made to the open ended questions. Typos and spelling have been corrected where they do not affect the content of the text for easier readability. Grammatical errors remain. Responses to each question are separated by the questions number ie "Q1" (see Table 4-1). However for the purpose of analysis, the text was read as a whole as it is the combination of the open ended responses together that gives the sense of meaning.

I start by providing demographic information connected to the student both as context and because Gee (Gee 1996) also connects Discourses to a particular social group's way of being in the world, its "form of life", its very identity.

At the micro level, I purely provide a description of the content contained in the example. At the discursive level, I begin to look outside the text at what connections are made to other Conversations outside the current situation. In order to contextualize what is "inside" and what is "outside" the text, I describe the larger or main activity that participants are engaging in.

At the level of social practice, I draw on the questions outlined in the methodology as well as analysis of agency and modality at the level of the text, to explain students' situated meaning, context, distribution of social goods (power) and identities.

5.2.1 THEME: TECHNOLOGY OPENING UP AND CLOSING DOWN

Example 1

Q1, The problem is that there are a few computers around the campus that actually provide the internet, so when student get the chance to search it is very crowded, Q2, It is easy if you are the first person in line for the computers. This is especially if you want to surf the net, Q3, This is because the owners don't want to share their computers with other students, Q4, It is going to internet café at town, where I have to pay, Q5, N/A, Q6, ICTs have lots of programs to broaden your mind. You can also search for information you need for your work Q7, ICTs are very much helpful especially in this day and age, for communication to the rest of the world. It makes me to be knowledgeable [ID3413]

The example comes from a slightly older (in the 22-25 year-old age group) female Xhosa-speaking student undertaking a business qualification at a rural previously-disadvantaged university. She is from an average socio-economic group but has no access to ICTs off campus. She has had some exposure to ICTs post school and prior to university.

This student describes a range of problems accessing technology. There are "*too few*" computers, places are "*crowded*", and people "*don't want to share*". The only way around these problems is to be the "*first person in line*" or "*to pay*" to go to a private provider like an Internet café. Either way, this student feels it costs her either time or money in order to easily access technology. She doesn't explicitly state that this is a disadvantage for her, but it is clear that it is a problem in terms of access.

The discursive practice within this example is mixed. It is global as it opens up opportunities to communicate with the "rest of the world". The student doesn't indicate whether this is indeed something she does but the one aspect of ICT use

that she reports engaging in frequently in the survey was communicative activities. She is deterministic as she suggests an essentialism of ICTs in "*this day and age*". However, the implication underpinning this is that we all know what she means by "*this day and age*" (a reference to the information society); and that the unquestionable necessity for ICTs within this current context is a shared perspective.

The context of this example is very much in the present. The student situates herself in a global context whilst grounding her practices within the student life of her university. She refers directly to other students in terms of the communal problem they all face with over-crowded laboratories. She also refers to the town where the university is situated in terms of access to the Internet café.

However, despite the campus context of access and the global context in terms of communication, the situated meaning is very personal. She uses the pronoun "you" in solidarity with other students to indicate that anyone can partake of these benefits, although the text is clearly directed towards the personal benefits. However, her only use of the "I" Statement is in relation to cost "*where I have to pay*"; although it is balanced against the strong modality in the "me" statement "*it makes me knowledgeable*" indicating that her perceived benefit outweighs the personal costs.

There is also indication of a transformative effect on her identity, as the increase in knowledge and broadening of her mind makes a link to ICTs as uplifting. The implied comparison in her statement that it "*makes me more knowledgeable*" puts her above the others and shows that the global opportunity offers her some status.

The only time she mentions disadvantage is in relation to personal cost of ICT access and in relation to the distribution of resources between students. The phrase "*because the owners don't want to share*" shows that all is not equal and that with ICTs in such high demand, those who have are holding on tightly to their resources. Aside from this, the student's strong modality evidenced by her statements "*it is easy*", "*this is especially*" and agency show she is feeling empowered by ICTs.

Example 2

Q1, the fact that sometimes the computer labs are too full, Q2, labs & the fact that we are given 39mgb you use each month, Q3, we don't have a computer at home, Q4, community library but I don't usually go, Q5, I do not like having to type my assignments & everything before submitting it to the lecturer because I end up spending a lot of time in the computer lab when I could have been studying, Q6, it increases your knowledge of things, you get to know what's happening around campus & around the world Q7, no
[ID 2225]

The example comes from a slightly older (in the 22-25 year-old age group) male Sotho-speaking student undertaking an undergraduate qualification in the health sciences at an urban previously-advantaged Afrikaans university. He is from a low socio-economic group and has no access to ICTs off campus. He first learnt to use a computer when he came to university and has a low self efficacy. He has a higher-than-average use of ICTs compared to fellow students.

The student relies solely on university for ICT access, indicating "*we don't have have a computer at home*" and describes a problem accessing ICTs because "*labs too full*". He finds typing assignments time consuming and detracting from studying, which is clearly his preference.

At the discursive level, the student sees ICTs as increasing his knowledge of what is happening not just at a local level, i.e. "*around the campus*" but also at a global level "*around the world*". The Internet and quota that students receive are seen as valuable resources.

The context to which the student refers is situated in the present and is quite extensive, as he refers to his home, the community library, the campus, the computer laboratory and the world all in relation to ICT access. He seems both aware of the

unchangeable conditions of access: "*the fact*" that laboratories are full and he doesn't "*have a computer at home*", and the choices he makes around access "*but I don't usually go*" in reference to the opportunity for access in his community library. He refers only to other students in passing in terms of provision of bandwidth quota "*we are given 39 mgb*" and the only direct mention of another person is "*the lecturer*" which he ironically places in the role of being the person taking him away from studying by requiring typed assignments.

The student makes strong use of "I-Statements", thus locating the statements relating to learning directly within his personal experience. He does not suggest that the process is bad but indicates strongly that it doesn't work well for him – "*I do not like*", "*I end up spending*", "*I could have been*". Typing on a computer costs him valuable learning time. However, information is clearly seen as a valuable resource as he values Internet access and the opportunity to know more about both his local and global contexts. However, despite the strong agency in terms of knowing what he does not like, his modality is weak with his comment "*I could have been studying*", showing weak certainty and authority.

The student shows a certain acceptance of the situation facing him in terms of access. The "*labs are full*", he does not have a computer at home and he does not go to the community library. But yet somehow he manages to spend "*a lot of time in the computer lab*" and clearly sees a positive opportunity in increasing his knowledge and knowing what is happening around him. He wants to be seen as a student who uses ICTs, but also as a diligent student.

Perhaps because of his low confidence in terms of using ICTs (as evidence from the quantitative data) and his lack of experience using ICTs (which he indicated as being less than 2 years), this student does not really feel confident about challenging the issue of the time it takes him to type and the way ICTs take away valuable studying time. The student who is clearly spending a lot of time on computers does not want to demonstrate what he perceives to be his weakness in terms of experience and is disempowered in terms of potential learning opportunities.

Example 3

Q1, we're a lot of students and ICT facilities are limited. I'll request if donators can donate more as students face difficulties in queuing or computers., Q2, Being a student, a lot of research is required, so internet facilitates a lot of x(can't make out word), Q3, It's expensive, pay more money for few minutes, end up not accomplishing what I was supposed to accomplish., Q4, none, Q5, I think ICTs sometimes create digital divide, especially for students who find it hard to access internet., Q6, How different websites help to explain teaching materials. Q7, Donate more computers so that students get computers without waiting long.
[ID 2922]

This example comes from a much older (in the 26-42 year-old age grouping) male Sotho-speaking student who is undertaking an undergraduate degree in the humanities at a previously-advantaged urban English university. He is from a high socio-economic group but has no access to ICTs off campus. He is a below-average user of ICTs compared to his fellow students.

The example is mainly focused on difficulties of access and the disjuncture between the requirements of courses for ICTs and the lack of ability to effectively use them. Their value as a learning resource is mentioned as an aside almost as "*help to explain teaching materials*".

At a discursive level, this student has a strong perception of disadvantage. He draws directly on the external Conversation of the "*digital divide*" and draws on the collective hardships of other students whose access is "*limited*", "*expensive*", "*hard*".

The context is located in the present and at the level of the local referring only to computer access on his campus with some indication of the costs involved in off-

campus access. He situates his experiences within the collective of the student body "*we're a lot of students*", "*being a student*", "*for students*", "*so that students*".

At the level of learning, he situates the meaning generically "*different websites help to explain*" but does not attribute high personal value to ICTs for learning saying "*a lot of research is required*". So for him it is a means to an end rather than a new personal rewarding opportunity. He links the cost and lack of access to his "*not accomplishing what i was supposed to*".

This student sees a differential distribution of ICTs that disadvantage some students, of which he is a part. He sees himself in solidarity with this group in his "*i'll request if donators can donate more*" computers which he then reiterates in more direct statement "*donate more computers*" later. He makes use of modal verbs "can" and "I think", adverbs "sometimes" as well as other markers of modality such as the adjective "required"; positioning them subjectively as his own perspective and demonstrating a range of degrees of modality showing a reasonably high commitment to the proposition.

5.2.2 THEME: TECHNOLOGY MAKING LEARNING EASIER OR BETTER

Example 1

Q1, as I said before to access computers, internet or software is very easy for me to access. I don't find it hard at all, Q2, well for me I might say if the computer system is fast it helps me to access websites, web pages & the rest of them, Q3, I access computer off campus whenever I noticed that the server is slow, so I find it hard to operate the system. Then I find it to continue my research, Q4, when I came in to serve the net, if I don't find much users, it help me to concentrate on my research, then I can have my privacy, Q5, using ict to me I don't think it's a waste. Ict helps me to be more advanced in technology & more it helps me to improve in my studies, am happy being an

information system student,Q6, improving on my level of skills. Help me to become a computer. Making me to be advance in technology & also making studying easier & easier for me Q7, well I don't much to say but all I understand is that using ict generally is good for everyone not only me
[ID 40]

This example comes from an older (in the 22-25 year-old age group) male English-speaking student who is an international student. He is undertaking an undergraduate degree in Business at a previously-advantaged Afrikaans institution. He is from a high socio-economic group and has access to a computer and Internet off campus, although he shares this with more than four people so has low practical access. He regards his ability to use ICTs as good although he only learnt to use a computer in the past 2-4 years. He has an above-average use of ICTs compared to his fellow students.

The student feels access to ICTs is generally easy despite some problems he describes relating to slowness and privacy. He is enthusiastic about the learning benefits and the personal benefits and thinks it is a good thing for everyone.

At a discursive level, he sees ICTs as an advancement both improving himself, his learning and making learning easier. He draws on the external Conversation of ICTs for the greater good by describing it a "*generally good for everyone not only me*". There are notions of productivity and betterment in the text

The context is situated in the present and located strongly around activity of learning. He links the problem of access in terms of speed directly to a purpose, for example "*if the computer system is fast it helps me to access websites, web pages*" and "*if i don't find much users, it help me to concentrate on my research, then i can have my privacy*"; showing that his Internet searching activities are related to network speed and conduciveness of the environment in terms of privacy.

There is strong personal agency in this example, with the student using me/my ten times throughout the text and the "I-Statement" nine times. The entire text is situated

in the realm of personal experience and opinion. Whilst he mentions issues in terms of access, the overwhelming theme here is learning. The underpinning implications are that having access makes life easier and improves learning opportunities. The student shows evidence of modal verbs "can", "might" "I think" to show a low to moderate degree of certainty about his opinion.

ICTs are intrinsically linked to this student's identity as evidenced in the statement *"Help me to become a computer"*. Whilst it is unlikely that the student meant this literally and it is more likely he was trying to say help me to become more computer literate, the student is linking ICTs directly to personal advancement in the phrases *"helps me to be more advanced in technology"* and *"Making me to be advance in technology"*. Technology is a positive experience for this student with few negative and positive emotions such as *"am happy being an information system student"* associated with technology.

ICTs have empowered this student, who feels independent and optimistic about his opportunities. The link between ICT and personal advancement provides evidence of some personal transformation. The student is almost so caught up in the personal benefits that it is only at the end that he almost guiltily and evangelically opens this out to a wider group by saying that everyone too can share in this opportunity in a bit of a "seize the moment" type of way.

Example 2

Q1, there is not enough on campus, therefore I don't bother to try using. Also not any instructions if there are problems or how to use it., Q2, nothing, except finding books in the library, Q3, when the power is off or internet connection is down or I have reached my CAP, Q4, it's easily available and there at anytime and I have exclusive access, Q5, things are a waste of time, not related to my course and I can never find the appropriate stuff on the internet. What I don't like is that using ICTs for my learning through the University is just not possible. More courses need to use WebCt., Q6, when I do find stuff, it helps retention and

understanding Q7, learning should involve more technology because I use it on a daily basis, it is very valuable and I wish more stuff was available to assist my studying
[ID2801]

This example comes from a young (<22 years old) English-speaking female student doing an undergraduate degree in Humanities at a previously-advantaged urban English university. She is from a high socio-economic group, has grown up using ICTs with a high level of computer experience (been using computer from between 10-15 years) and having been able to learn through a good social network of family and friends. She has good access to a computer and broadband Internet off campus but has a below average use of ICTs compared to her fellow students.

The student find on campus access impossible and predominantly relies on her own resources. She describes some benefits and problems with using ICTs for learning but believes they are necessary.

At a discursive level, she has high expectation in terms of efficiency of technology and there is a sense that technology does not live up to that expectation. This links to the external Conversation around South African ICT infrastructure in terms of service providers and bandwidth falling short of first world standards.

The context is situated in the present and centers on the student's experiences on and off campus. It is predominantly situated in her personal experience, although there is mention of the university and allusion to an unnamed third party (probably the university) in terms of the lack of instructions and lack of courses using ICTs at her university.

There is a distancing of the student from the problem and she draws on her personal economic resources her "*exclusive access*" to ICTs to solve problems rather than problem solving herself; as evidenced by "*not any instructions if there are problems*" and "*i can never find the appropriate stuff on the Internet*". She shows moderate to strong modality in terms of her opinions using modal verbs "can", "should" and adverbs "never". These opinions are subjective as the frequent use of "I-Statements"

show that we can be sure she is representing her own degree of affinity to the expressions.

ICTs are not tied to her personal identity in any other way than being a necessity, as the student indicates she *"use[s] it on a daily basis"*. She regards them as a *"waste of time"* and hard work but seems unable to avoid the fact that if everything works they can be *"very valuable"* and actually she *"wishes more stuff was available"*.

Whilst the texts only uses "I-Statements" and lacks reference to other people, she does not demonstrate a strong sense of agency. She blames the university for the lack of ability to use their resources *"using icts for my learning through the university is just not possible"*; and not having enough computers and instructions on how to use them. There is also a suggestion that if there was *"more stuff available"* then her problem of never finding appropriate stuff on the Internet could be solved.

Example 3

Q1, , Q2, all of them, Q3, location, there aren't many internet cafes, Q4, I am grateful for the internet café that is in my location, Q5, People abuse ICTs, using it for non-academic(too much) activities, Q6, there is a wide variety of sources of information to choose from, it improves my skills, opened my eyes. I learn more than just studies over and above making my studies easier Q7, ICTs can improve one's results as much of what we learn in University is based or can be broadened using ICTs
[ID 2776]

This example comes from a young (< 22 years old) male Setswana-speaking student in his third year of a Business degree at a previously-advantaged English institution. He is from a low socio-economic group but had some exposure to computers at school with an average level of experience (4-6 years). He has access to a computer and basic Internet off campus and is a below average user compared to his fellow students.

The references to external Conversations are less overt in this extract. The student certainly feels privileged in having the opportunity to use ICTs which, whilst not overt, refers to the external Conversation of the digital divide and the haves and have-nots. Perhaps this also suggests that this student has direct experience of being on the "other side" of the divide or knows people in this position

The context located in the present refers directly to the university as well as to sources of access off campus, such as the Internet Café. The only reference to the broader student group is in terms of "*what we learn at university*" and people who "*abuse icts*". The text is dominated by references to learning and studies.

The text has a strong meaning of betterment. Technology has given this student new opportunities in that it has "*opened my eyes*" and "*I learn more than just studies*". Whilst he does say it makes "*my studies easier*", the ICTs are linked directly with outcomes, as the student perceives that "*icts can improve one's results*". He also sees a role for ICTs in broadening what is learnt at university; showing his strong valuing of freedom of information. The majority of the text is situated in the subjective, demonstrating that this indeed is the speaker's personal opinion that he is projecting and the degree of affinity expressed is moderate as evidenced by the use of the modal verb "can".

For this student, ICTs are tied to their personal identity. There is a sense of almost religious transcendence in the phrasing of ICTs as opening his eyes as well as an almost moral positioning of what is appropriate and inappropriate use of ICTs at university in the phrase "*people abuse icts, using it for non-academic(too much)*".

Whilst the student clearly feels empowered by ICTs and the opportunities they have provided him, he is still cognizant that this is not available to all and reflects his previous disempowerment by attributing privilege to the opportunities he has now. However, he clearly sees the potential of ICTs to be a positive phenomenon for both students (by helping them to improve academically) and the university (by broadening knowledge).

5.2.3 THEME: TECHNOLOGY ESSENTIAL AND BETTER

Example 1

Q1, there are few computers on campus, which cannot cater for the masses, Q2, my experience with computers & long term studying at university, Q3, because most people in my community don't have access to computers, Q4, my knowledge of computer & owning a computer at home, Q5, it makes work easier & you work more effectively, Q6, improves my learning capabilities Q7, this is a computer dominated world, so it is essential for me to understand computers
[ID 190]

This example comes from an older (22-25 year age grouping) male Setswana-speaking student in his second year of a Business degree at a previously-advantaged Afrikaans-speaking urban university. He is from a low socio-economic group and has been using a computer for less than two years, having taught himself. He does have access to a desktop off campus but not to Internet, and has an above-average use of ICTs compared to his fellow students.

The student refers to his access positively but acknowledges that both on and off campus there are people without access. Computers have positive benefits in terms of ease and efficiency and are essential for a person wanting to participate and be successful in the world.

At the discursive level, the student refers to the external Conversation of information society and the necessity to be part of it. He comes from a community that does not have access to computers and has somehow managed to acquire experiences and the economic asset of having a computer at home, which he values.

The majority of the text is situated in the present but there is reference to the past in the student's "*long term studying at university*" and in the community he came from.

The student refers to the campus, the university, his community, his home and the world in quite contrasting ways.

The student contrasts his personal experience with that of others in his reference to the "*masses*" and "*people in my community*". The experiences of the others are ones of depravity whereas his personal experiences are positive. It makes his work easier, more effective and enhances his capabilities. He has a strong certainty about the statement he is making, using an adjective with strong modality, i.e. "*essential*" and the modal verb "*cannot*", which shows a medium level of affinity with the proposition.

The student is very aware of the difference his access and skills make in terms of harnessing the value of ICTs. As a way of justifying this as necessity rather than luxury, he believes that in order to get ahead in a "*computer dominated world*", knowledge of ICTs are essential. Having acquired this knowledge, the student has managed to supersede the community from which they came from and participate in this new world.

The subliminal view here is that computers are power, and having the knowledge and experience to use them is empowering. ICT ability here is directly linked to success.

Example 2

Q1, The vast amount of practical sessions & SI sessions & there aren't enough alternative venues one can go to use the computers, Q2, webct & the v drive for accessing information & the library online resources, including opac, when you need referencing for assignments, Q3, The time it takes for webct to run is too long. Also I can't access my UFH mail, Q4, ebshost webct, Q5, ,Q6, They assist with accessing information & different viewpoints when doing assignments, especially at 3rd yr level Q7, we really need a huge investment in computers at UFH & we need larger labs & more labs as to match the increasing intake of students please!!!
[ID 859]

This example comes from an older (22-25 year age group) Xhosa-speaking female student in her third year of a business degree at a previously-disadvantaged English-medium rural university. She is from a low socio-economic group and has an average level of computer experience (6-10 years), having taught herself. She has a laptop and uses her mobile phone to access the Internet off campus. She has a low use of ICTs for learning compared to her fellow students.

The student describes quite specific ICT-based activities that she finds valuable and mentions the high demand on resources by students and the desperate need for more computers.

At a discursive level, the student draws on the external Conversation of previously-disadvantaged institutions, calling on investments at a university level.

The context is situated in the present and the student refers to the campus laboratories, library and the university.

It is interesting that the student's quantitative responses indicate a very low use of ICTs but her qualitative responses suggest quite targeted and intensive use of information through the learning management system, shared drives, library databases and Internet. Perhaps her use of ICTs is quite narrow and targeted and that is why she does not report a frequent use. She generally refers to her experiences in the collective of "we" "you" and "they" with the only individual reference being "*I cant access my ufh mail*", a problem she appears to see only in relation to herself. She is very cautious about her opinions and whilst her entreaty of "*please!!!*" indicates she feels quite strongly about her request, she makes low use of modal verbs to indicate strong certainty and authority.

She see ICTs as being important "*especially at a third year level*" and certainly the information sourcing behaviour she describes such as "*ebsco web*" and "*opac*" indicate she is using electronic journals and not just web searches as a strategy.

The student sees herself in solidarity with a larger group from whom the university is requiring use of ICTs through "*vast amount of practical sessions & si sessions*" but

not providing sufficient venues to accommodate this adequately. She makes a request for more resources strongly but politely and strategically *"to match increasing intake of students"* and understands that this needs deliberate university investment on a large scale *"we need larger labs and more labs"* (i.e. not just more computers but more buildings).

Example 3

Q1, the fact that we aren't taught to use it, and we have to figure it out ourselves, Q2, getting information is much quicker and easier, even though lecturers say that some information may be unreliable, Q3, the fact that they are not many internet connections i.e. in our residence rooms, thus using a computer in our lab is our only option, Q4, the library, Q5, sometimes you search for information, and it is not available, or it is useless, you have to search 20 sites before you actually find anything, but when you do find information, it is only about a page.,Q6, it's very easy to access as much knowledge as possible Q7, if a system can be used that all students understand, and can access information without constraints, then ICTS will be the next best thing since slice bread- seriously. It'll be a step further in the education system
[ID 2608]

This extract is from a young male Setswana student in his first year Humanities degree at a newly-merged previously-advantaged Afrikaans urban university. He is from a low socio-economic group, and has an average level of computer experience of 6-10 years, having learnt to use computers at school. He feels confident about using ICTs. He has access to a desktop computer which he shares with more than four people, but not to Internet.

The student raises issues around training and Internet access. He highlights some of the positives and negatives of the vast information available on the Internet and views technology as advancing education

At the discursive level, the student draws on external Conversations of "*education for all*" and the opportunities in availability of information. There is awareness of differential advantage in references suggesting if only all students could understand and have access to ICTs.

The context of this example is situated mostly in the present and slightly in the future (in terms of future possibilities). He mentions the computer laboratory, the library and the residence room as location of access and the education system as external entity. He also draws widely on the larger body of students in his texts.

The student strongly identifies with the larger student group in his use of "*we*" and "*our*" in such a way as to suggest that all the issues raised are as a community. Even the problems we have, he locates as a wider issue so the reader doesn't think it is his lack of capability that means he is not good at searching the Internet. He thinks ICTs are the answer "*the next best thing since slice bread*" and, aware of his cliché, follows the statement up with "*seriously*".

The student sees himself as part of a group of "*struggling*" learners who are forced to do things themselves when clearly it is someone else's responsibility. He sees himself as more knowledgeable than his lecturer in terms of ICT use as even when the lecturer says that "*some information may be unreliable*", he knows that it is quicker and easier even if you have to "*search 20 sites before you actually find anything*", which is a kind of contradiction.

The students see the responsibility of computer training as resting on the university that he perceives as needing to teach and the individual as needing to learn. However, ICTs he views as empowering as it is "*very easy to access as much knowledge as possible*"; thus immediately equating information and knowledge. In addition, he sees ICTs as having the ability (if everyone has access and knows how to use them) to transform the education system "*It'll be a step further in the education system*".

5.2.4 THEME: TECHNOLOGY GIVES YOU KNOWLEDGE

Example 1

Q1, Most of time there is no network in our labs while they are open, if there is internet few of them, most of them they do not have internet, Q2, The most thing that help is the availability of many computers in our labs with internet, although there are few computers in our campus, Q3, Location, Q4, Availability of computers, internet, Q5, N/A, Q6, To be current of everything that I want is what is valuable about using ICT, knowledge is the most important thing, finding out things by myself Q7, Looking at the needs of the students of the particular campus is important, so that their needs can be reached for ICT to do its purpose not just do for the sake of doing eg. Ensuring that all students get enough good computers with internet
[ID 3469]

This example comes from a young, female, isiXhosa-speaking student in her third year of a business degree at a previously-disadvantaged rural University. She is from an average socio-economic group and has between 2-4 years' experience using a computer which she learnt about in her final year at school. She does have access to a computer without Internet off campus but it is shared by more than four people, so her practical access is low. She has also undertaken a commercial computer training course and is confident about her ICT ability.

The student highlights some of the problems students at her campus face accessing ICTs such as "*few computers in our campus*" and "*most of them they do not have Internet*". She then talks about the benefits that ICTs have for her and other students.

The context is situated in the local, i.e. "*our campus*" and she writes with the collective voice of the student group. There is indirect reference to something beyond the campus in her frequent references to the Internet and her linking of that with

information; although there is nothing to suggest her use of the Internet is anything beyond local.

The student draws on the external Conversation of information as knowledge. She also alludes to ICTs as having a high purpose rather than being merely a practical tool.

The only "I-Statement" relates to what she perceives as a direct personal benefit *"to be current in everything that I want"*. She refers to a specific group of students in her references to *"our labs"*. She then draws on the collective "student body" in her comment on the *"needs of the students"* and *"so that all students"* in her discussion of changes she would like to see at a campus level. In this respect, her degree of conviction is moderate (evidenced through the use of the modal verb *"can"*).

For this student, the key benefit of ICTs is knowledge as she demonstrates by her statement *"knowledge is the most important thing"*. She values being able to choose on her own terms what she wants to know and keep up to date on these things. This is made difficult by very hard access conditions, especially in terms of the Internet, which is one of her key ICT activities and motivators.

Whilst the student describes rather dire circumstances of access, she does not appear disempowered. The opportunity to find out things herself is empowering to her and has enabled her to have up-to-date information (and in her perception, knowledge) in the areas she chooses. This has been a positive experience for her and links to her call for all students to have access to the Internet. She sees ICTs is being more than just a tool: *"not just do for the sake of doing"*, but as having a greater purpose.

Example 2

Q1, Nothing, they are there for my convenience, Q2, More informational gain above all. Knowledge is power, therefore having a lot of it [knowledge] less constraints you from doing what you desire or what you are recommended to do. It makes things easy and fast, Q3, The internet for me is

quite expensive and with parents who were never exposed to such things, she sees internet as a non-essential, Q4, Obviously having my own makes it more convenient, Q5, Dating sites. Pornography sites.,Q6, I can keep abreast with the day to day Improvements of communication and any other important informational functions Q7, Access at home is hard but rather than that: computers are fantastic [ID 2078]

This example comes from a young, Sotho-speaking, male student studying second-year humanities at a previously-advantaged Afrikaans university in an urban area. He is from a low socio-economic background. He taught himself how to use a computer just before he came to university and he has not undertaken any formal courses or training. He is confident about his ability to use a computer and only has access to a personal digital assistant off campus (but not to Internet). He has an above-average level of use compared to his fellow students.

The student describes some of the personal issues he faces accessing computers: "*the Internet for me is quite expensive*" and "*access at home is hard*" and the benefits he sees for himself generally. He does not refer to any negative issues about ICTs. His comments about access appear merely factual.

The context is mostly situated in the present but refers to the past in terms of his parents' lack of exposure to ICTs in the phrase "*with parents who were never exposed to such things*". He makes no direct reference to the university campus but does refer directly to his parents, his mother and home.

The text is subjective with the student, mainly drawing on personal pronouns "*me*", "*you*" and the adjective "*my*". He shows a moderate certitude about the personal benefits when he uses the modal verb "*can*" in the "I-Statement" "*I can keep abreast*". He makes strong declaration about his parents' lack of knowledge about ICTs in "*with parents who were never exposed to such things*".

ICTs appear strongly tied to this student's identity. He has a desire to use ICTs, they make things "*easy and fast*", are "*fantastic*" and enable him to keep up with

improvements of communication and other information on a daily basis. He mentions dating and pornography sites in the section on what he does not like about ICTs. So clearly, even though he does not directly mention a learning use, although he alludes to teaching and learning use in "*what you are recommended to do*", he has made a judgment on what he sees as appropriate and useful. Even the access constraints are paired with a positive, suggesting the effort is worth it despite problems in access.

He makes a direct association between information gain, knowledge and power. He clearly foregrounds information-seeking activities in his text. His one big problem seems to be his mother, whom he says "*sees the Internet as a non-essential*" and as a result he seems to bear the cost of Internet access.

Example 3

Q1, Sometimes there are classes in the computer lab and others are full at the time., Q2, , Q3, My computer does not have internet, Q4, I can type more quickly and effectively, Q5, The web offers access to a huge amount of information, but not all web documents are equally credible. It contains mixture of information. It is not like a scholarly journal that is aimed at a specific type of user, Q6, It is very quickly to obtain information. This information covers any topic and varies in quality and depth Q7, ICTs is advanced search options and complex search statements for more accurate and expanded results

[ID 423]

This example is from a young, Sotho-speaking, male student in his first year of a Commerce and Administration degree in at a previously-advantaged Afrikaans urban university. He is from a low socio-economic group and learnt to use a computer between 2-4 years ago whilst at school. He has also done a university training course. He has access to a computer without Internet off campus, which he shares

equally with three other people, and is confident about his ICT abilities. He has an above-average level of use compared to his fellow students.

The student mentions some small issues about access to computers but largely talks about the problems and benefits with using the Internet to find information.

The context he refers to is situated in the present and he refers to the computer laboratory and the Internet. He situates some of the text personally but for the majority of the text, when he refers to ICTs and information searching, it is without any agency.

He shows moderate certainty in his use of an I-Statement in referring directly to the benefit *"I can type more quickly and efficiently"* and uses the adjective *"my"* to refer to his lack of Internet access. His more lengthy description of seeking information online has no modality or agency and is written in a very different style; almost like a short answer to an exam question.

The student definitely sees some benefit in terms of ICTs helping him to be more productive. However, it appears that he wants to be seen as a person who is knowledgeable about ICTs as well. He writes a series of statements in which he contrasts the benefit of ICTs with a detriment. These are consciously juxtapositioned. The web has *"access to a huge amount of information"* but this is not all *"equally credible"*. It contains a mixture of information but, unlike a journal, it is *"not aimed at a specific type of user"*, it *"cover any topic"* but this *"varies in quality and depth"*.

Clearly, this student is demonstrating his awareness that the opportunities the web opens up need to be viewed with caution. He is aware of this and has sufficient knowledge to not be caught in this trap. This student's ICT ability enables him to use the web powerfully but from the way this is written, it is clear that he is aware of many who may not be aware of the issues and therefore may use the web unwisely or to their own detriment.

5.2.5 THEME: TECHNOLOGY MAKES LIFE EASIER OR HARDER

Example 1

Q1, that @ campus there aren't enough computers to student access, Q2, internet, Q3, can't spend enough time that I desire because am not the owner of the computer, Q4, mostly surfing the internet, Q5, its addictive once you get used to it, even if its not for academic purpose you'll stick to the pc just to satisfy your present desire cause it will be not for academic purpose, Q6, its punctual & not time consuming when you in a hurry Q7, learning with icts has become the most efficient & globalised recognised studying & helping student to reach goals
[ID 1137]

This example comes from a Zulu-speaking male student studying an undergraduate degree at a previously-advantaged Afrikaans urban university. He is from a low socio-economic group and has an average level of computer experience of 6-10 years, having learnt to use computers at school. He feels confident about using ICTs but does not have access off campus. He has an above-average level of use compared to his fellow students

The text describes the student's desire to use the Internet and the problems he faces in terms of access. His view of ICT efficiency stretches beyond just personal competence to a global benefit for students.

At a discursive level, he draws on many external Conversations, namely the notion that technology is productive: *"its punctual & not time consuming"*; a position largely adopted in business spheres who often market technological solutions as saving time and money. The student draws on the concept of the information society as he sees technology as *"most efficient & globalized recognized studying"*. He also draws on some the *"bad press"* Conversations that are ensuing in the media about technology

being compulsive for youth through his use of adjectives, such as "*addictive*" and "*desire*".

The context is situated in the present and he refers to both the academic and social contexts in terms of purpose for using ICTs. The only physical space he mentions is the campus. He refers to the wider body of students generically and refers to a specific person as the "*owner*" of a computer off campus as an aside.

The text does not show a strong personal agency and the only "I-Statement" is in terms of his desire to spend more time on a computer, i.e. "*I desire*". Otherwise, he refers to problems of access on campus as a general students' issue and benefits of learning likewise "*helping students to reach goals*". The student indicates his main activity is "*mostly surfing the Internet*" and that he finds it addictive and has a desire to spend more time on the computer. This is contradicted or perhaps even justified by his statement that ICTs are punctual and not time consuming, i.e. productive. However, he is not comfortable taking personal responsibility for this and uses the generic pronoun "*you*" both to describe the pitfalls and promises of ICTs suggesting it is an issue everyone faces. He shows moderate commitment to the issues through use of modal verbs "*can't*" and "*will*".

He sees himself as part of a group that is caught up in the spell of technology. He chooses not to specifically say what activities he does with ICTs other than "*surfing the internet*" and attributes his behavior to the technology itself: "*its addictive once you get used to it*". His survey data shows he has a high use of ICTs and he certainly indicates here that he spends as much time as he can "*you'll stick to the pc*" on computers and that the time he has is not enough because he cannot spend all the time he desires surfing the web. However, he contrasts what to an outsider might seem as a waste of time by highlighting one of the key benefits of ICTs as not taking time and enabling him to be punctual. He is also careful to balance his admission of "*even if its not for academic use*" with the assurance that ICTs have become the most "*efficient & globally recognized [way of] studying*".

What is interesting is that despite the obvious choices the student is making to use ICTs, he positions himself as almost helpless. Phrases such as "*its addictive*" and "*can't spend enough time that I desire*" indicate his lack of acknowledgement in terms

of the choices he is making. Instead, we find him attributing his behavior to the computer and blaming the owner of the computer, who prioritizes his or her use above his.

Example 2

Q1, the waiting process. Something urgent needs to get done and time is of crucial importance at that time but there is a line I have to follow just to access ICTS on campus. And get some people busy on the computers are sending sms's, looking at, Q2, the accessibility of the computer labs. There is a computer lab across the road from my residence, Q3, I have no dial up connection for the internet, Q4, I can do certain projects or assignments that don't require the internet on my PC, Q5, waiting, when on the internet, it takes long to download information, Q6, finding specific information without having to go through many books Q7, [ID 2726]

This example comes from a young English-speaking female student studying an undergraduate degree in Engineering at a previously-advantaged urban, English university. She is from an average socio-economic background and has an average level of experience (6-10 years) using ICTs, which she learnt at school and through a university training course. She has a personal laptop but no Internet access off campus. She has a below-average level of use compared to her fellow students

The student talks about the costs in terms of time: "*the waiting process*" and "*waiting when on the Internet*" and some strategies she uses to get around that such as "*i can do certain projects or assignments that don't require the Internet on my pc*".

The student does not explicitly draw on any external Conversations but there is some value judgment in terms of Internet being better/easier than books that does link into the information society notions and the purpose of ICTs on campus being for learning.

The context is situated in the present, particularly around the university campus and residences. Whilst she refers to other students in a laboratory context, the text is predominantly positioned in terms of her personal experiences.

She does make use of I-Statements to position her opinion within her direct personal experience and demonstrates moderate to strong conviction in her opinions with the use of modal verbs "can" and "have to". She directly refers to other students' inappropriate ICT behaviors in "*Some people busy on the computers are sending sms's, looking at websites*".

However, despite what seems to be the lack of productivity in terms of ICTs, she wants to be seen as a person who values technology as she makes the effort even when it "*takes long to download information*" and almost suggests it is a better option than "*having to go through many books*" despite the inefficiencies.

The student does not seem to be personally empowered or disempowered through her use of ICTs. She appears to believe it is just something one has to do, an inevitability which diminishes the roles of active choice.

5.2.6 THEME: TECHNOLOGY DISCONNECTS YOU

Example 1

Q1, Because of the large number of students that make use of them Waiting for the use of a computer can take some time., Q2, It usually is not much help as it seems that books seem to be more available for use than ICTs on campus., Q3, Because of the distance travelled., Q4, Family members that work in area dealing ICT's., Q5, Thus can often be complicated and arise confusion in students. And widen the gap between lecturers and students.,Q6, The updating of data and introduction to the work environment beyond tertiary level. Q7, Access is limited and at the same time ICT's are very useful.
[ID 887]

The example is from a young, male, Xhosa-speaking student in his first year of an undergraduate degree in science and agriculture at a previously-disadvantaged English-speaking rural university. He is from an average socio-economic background. He has an average level of experience using ICTs (6-10 years), having learnt at school and taught himself. He has also done a university training course. He has access to a computer with Internet off campus but shares this with more than four people. He is confident about his abilities and is an above-average user compared to his fellow students.

This text talks about the problems accessing ICTs and issues and benefits that arise from its use, both personally and generally.

The context is situated in the present and refers to campus laboratories, where the student lives and the work environment. The student mentions the large collective of students, lecturers and their family.

There is no evidence of any agency in the text and the moderate certainty of the modal verb "*can*" in the statement "*thus can often be complicated*" cannot be attributed to anyone and is therefore extrinsic.

The student does not seem to have an identity associated with the use of technology. This is suggested by the lack of agency as well as the content which suggests "*books seem to be more available for use*" and that ICTs can "*often be complicated and arise confusion in students*". There is also a very direct reference to ICTs widening "*the gap between lectures and students*".

However, whilst not linked to this student's identity, ICTs do appear to have empowering benefits of "*introduction to the work environment beyond tertiary level*". The student does regard ICTs as "*useful*"; although the association with technology is at the level of the tool and not personal.

Example 2

Q1, Long ques on waiting for a computer, sometimes computers or part thereof not functioning., Q2, Writing essays and assignments. Getting illustrations and research from internet, Q3, internet cafes are expensive and not very close to where I live. Have to wait for the use if the computer. Connection to internet not always achieved., Q4, At home- need not travel to campus or any other place- convenient., Q5, sometimes no access to computers for work that has to be done through computer. Relies on electricity whereas paper and pen seems almost always available, sometimes viruses takes place- work is not saved problems arise keeping one from getting, Q6, Work is better presented- neater and internet helps with research and additional info from around the globe.0 Q7, [ID 2524]

This text was written by a slightly older, (22-25 year grouping) female student in her second year of a Humanities degree at a previously-advantaged, English-speaking, urban university. She is from an average socio-economic background and has an average length of experience using ICTs (6-10 years) which she learnt at school. She has access to a computer and the Internet off campus, which she shares with more than four people, She has a below-average use of ICTs compared to her fellow students.

Her text describes in detail a range of problems and issues she has with ICTs, although she does see a benefit.

The context refers to a mixture of past and present experiences. The student refers indirectly to access on campus, and specifically to access at home and Internet cafes. She refers to the world in terms of information and national infrastructure in terms of electricity.

The majority of the text is devoid of agency except for one I-Statement in reference to where the student lives. She exhibits low confidence as evidence in her use of the adverb "*sometimes*" in her statement "*sometimes no access to computer for work that has to be done*"; and high confidence in her statement "*whereas pen and paper almost always available*". However, the certainty surrounding these statements is extrinsic, given the lack of positioning of the subject directly in the text.

The lack of agency and content indicates that this student does not have a personal identity related to ICTs. Whilst she does see positive outcomes "*writing essays and assignments*", "*getting illustrations*" and "*work is better presented – neater and Internet helps with research*" none of these is linked to her personally.

There is a lack of empowerment for this student as she sees the causes of access problems being outside of her control, e.g. "*long ques*", "*not functioning*", "*relies on electricity*", "*sometimes viruses take place*". There is a sense of ICTs being a requirement and not a choice in her phrase "*for work that has to be done*". It also seems she would rather rely on the certainty of "*paper and pen almost always available*" then on the insecurity of using a computer

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5.3 SECTION 2

This section makes the case for the consideration of these themes as Discourses. As discussed in Chapter 3, a discourse (piece of text) becomes a Discourse when it takes on a socially-meaningful identity in a specific situation or context and is a combination of what people say, do, think, feel and value.

Having identified six themes in the data and analysed them in order to reveal something about an individual's actions, thoughts, feelings and values, I now highlight the key characteristics within each theme and draw on the larger corpus of text to demonstrate how these are not only individual concerns but ways of thinking about ICTs that are common to a larger group. In this section, I begin to make my case for these themes having a socially-situated meaning at the level of Big D Discourse. I thus move from the themes identified in Section 1 to naming the Discourses that emerged in this section.

The linguistic markers of agency and modality are examined for each theme. Whilst the sample of individuals is 840, not all individuals exhibited evidence of agency and modality in their texts, and some individuals exhibited more than one type of agency or modality. Therefore the sample count for the overall and Discourse samples vary.

**5.3.1 THEME: TECHNOLOGY OPENING UP AND CLOSING DOWN:
DISCOURSE -GLOBALIZATION**

The key element of this theme is the reference to the "global" opportunities or divides. For some students, ICTs open up possibilities, whilst for others they close them down. Students are conscious of opportunities afforded by technology; which they attribute to being able to communicate and seek information globally which in turn offers the students prospects for self improvement.

However, students who hold this view of the ICT world also feel they have limited options and that choices need to be made in relation to, for example, cost, time and security. Having money and knowing people empower you and having access to ICTs is a luxury without which you suffer. Even when this feeling of exclusion is not explicit it is implicit.

In the first example, a female student talks explicitly about the benefits of ICTs and how they have uplifted her, although she acknowledges the personal cost of ICT access and judges what she has in relation to those students who do have computers but are not willing to share. Implicitly, she sees herself on the "have-not" side of the digital divide. In the second example, a male student is much clearer about his previous and even current disadvantage in experience and access that has resulted in personal costs for him. Whilst he does not attribute these to disadvantage, it is clear that he perceives this as his problem and his choices in terms of how to deal with it limited and constrained. In the third example, a male student is very conscious of how ICTs create divides amongst students and refers directly to the digital divide that constrains students' opportunities.

In terms of global opportunity, students within this theme do not just refer to the global nature of information on the Internet. More specifically, they refer to the opportunities it affords them in terms of furthering themselves in their studies, e.g. finding bursaries and scholarships *"even when we check for bursaries, scholarship, job opportunities, job for degree it easy to get them"* [969] and in the job market *"because every job requires a person to be computer literate, e.g. a person who will be able to type, do presentation on conferences using personal laptops"* [3272]

Students' text within this theme also describes many types of disadvantage. For some students, the disadvantage in relation to using ICTs is related to their past background. For example different opportunities that exist at the level of the schools' system in South Africa is an issue of which university students are very conscious: *"i wish access would be made to learners from disadvantaged schools, because some of us are only exposed to icts here at university"* [1161].

For others, the issue of cost is dominant. Whilst the lack of money is a feature of their lives today, for many the reason accessing ICTs costs them more is because of past background, i.e. they live far away from university: *"i have to travel for 30 kilometers and pay ten rands for the taxi fare and after that i still have to pay 10 rands for 30 minutes using the internet"* [877].

There are also indirect references to apartheid which one can see emerging in statements where students refer to demographics: *"i wish for greater information*

about developments in the field of ict's to be made to more people (vary the demographic)" [2252].

However, the discrimination students feel they face is not only in relation to the country's past history; it continues today. Students who rely on campus access at all times of the day and night are made to feel like criminals: *"i suggest security personal in maftown campus better stop looking around us when using computer labs, because we are not thieves, crooks or thugs but here to learn and need to be given chance to explore the net/internet"* [279]. Universities also prioritize ICT access according to what students are studying and so those who are not doing the elite courses also feel discriminated against: *"It's a horrible situation under which we are studying/ seldom access internet in the library or medical library. i am always chased out in medical library cos i am not a med student"* [3269].

Within this theme are two underlying subthemes, one of the information society and the other of the digital divide – two sides of the same coin. One side views the Globalization of ICTs in terms of the information society and the opportunities that this offers and the other views the Globalization of ICTs as a disadvantage and the lack of opportunities it offers students who are on the underprivileged side of the divide.

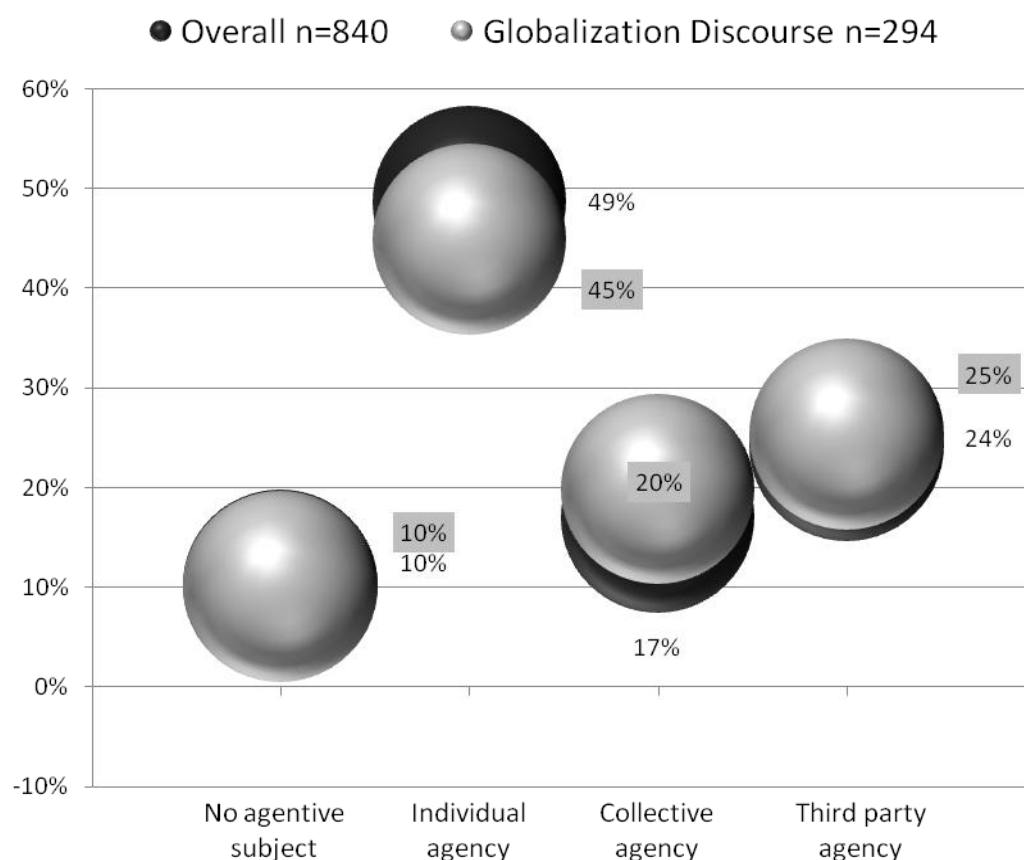
The concept of the information society and digital divide are cultural models that students draw on about how ICTs work in the world. They are concepts used by the media, e-government and NGOs to talk about ICTs, particularly within a developing context.

A detailed analysis of a sample of students within this Discourse shows that, at the level of the language form, students have strong sense of agency.

The visual depiction below represents different kinds of agency for the Globalization Discourse in light grey compared with the overall sample in dark grey. Students within this Discourse largely mirror the pattern of the overall sample with the majority indicating a strong sense of individual agency (use of the first person in terms of "I" or "me" - 45% of the respondents), and 20% seeing themselves as having agency belonging to a broader community such as a collective group – usually the student body (a slightly higher-than-average reference compared to the overall sample,

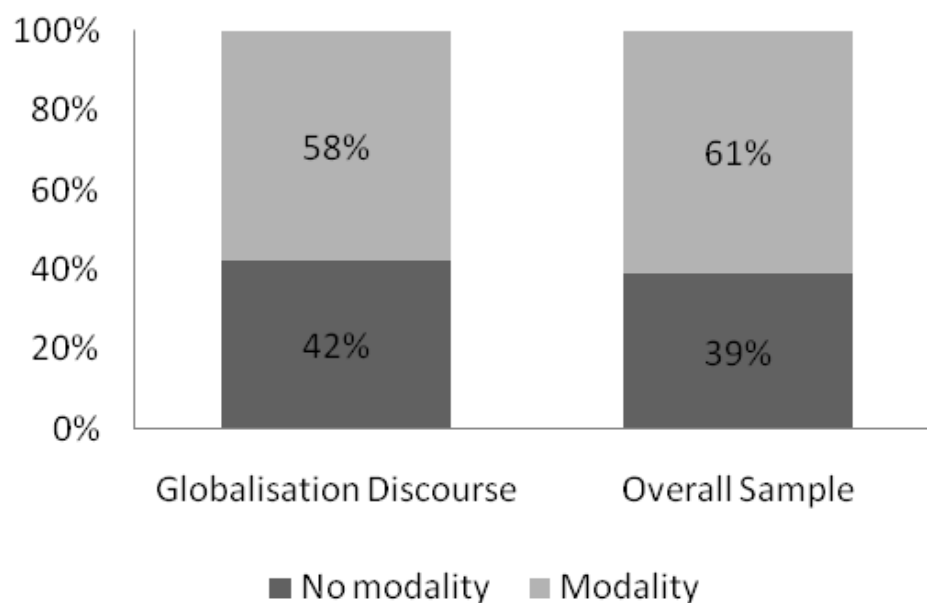
which was 17%). The other 35% of the Discourse group mirrored the overall sample either indicating no agency in their texts (10%) or ascribing agency to a third party (i.e. another person, for example lecturer, parent, friend etc.)

Figure 5-1: Comparison of overall agency with agency evident in the Globalization Discourse Group



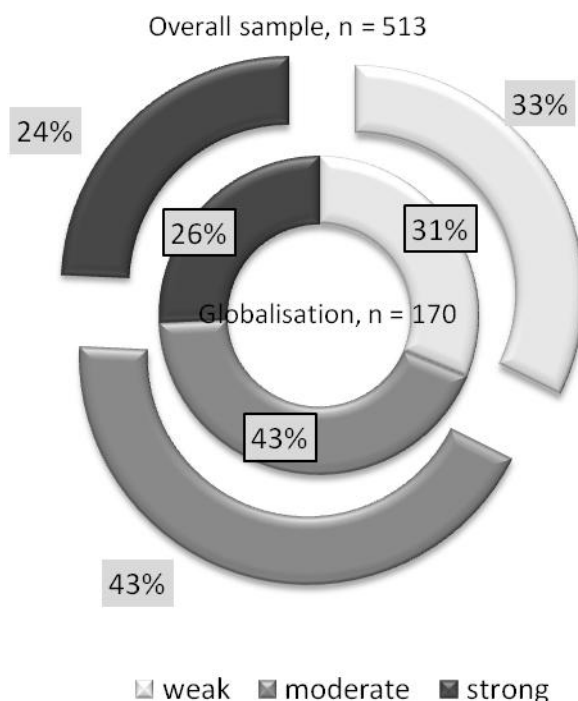
As with agency there was little difference in the level of authority (as evidenced through modality) between the Globalization Discourse group and the overall sample. It was found that 42% of students from the Globalization Discourse did not make use of any type of modal marker to reinforce their positioning (see Figure 5-2) which is very similar to the overall sample where 39% had no modality.

Figure 5-2: Comparison of the presence of modality markers between the overall sample and the Globalization Discourse group.



Of those students who did use modal markers, the Globalization Discourse group and overall sample were largely similar. In the Globalization Discourse group 31% of the instances of modality had weak certitude whilst 26% of instances had strong modality.

Figure 5-3: Comparison of the level of certitude of modality markers between the overall sample and the Globalization Discourse group.



5.3.1.1 INFORMATION SOCIETY DISCOURSES

The activities in which students within this subset are engaged include communication, finding information, research and information literacy.

Overall, when examining the meanings of the texts, we can see that the context that students draw into their texts include themselves, the fellow students, the university, the job market, the world as well as the technology, particularly computers and the Internet. They talk in terms of the present and the future.

The situated meaning of their texts suggests a view of the world today as being more advanced and requiring of technology, with ICTs playing a key role. ICTs offer them huge personal rewards and open up possibilities for students to expand their horizons

ICTs make students more employable and give them access to future job and studying opportunities. This offers students an added advantage above others that many are consciously aware of.

In terms of identity, students see their ICT identity as making them better both in terms of their peers and in terms of their community. They have a strong sense of needing to keep up to get somewhere and as having the learning edge; ICT gives them visible gains.

Their life projects appear for many to be good jobs which, for many, will be gained through global knowledge. In terms of this transformation, students within this Discourse have a strong sense of ICTs as uplifting, giving them status, opportunity and power.

5.3.1.2 DIGITAL DIVIDE DISCOURSES

Many students do not describe any ICT-related activity. Their level of engagement with ICTs is in the fantasy world although some mention a desire to engage with ICTs at the level of exploration, studying and seeking information.

The context in which students situate their texts is broader than those within the information society Discourse. It includes not only themselves, their fellow disadvantaged students, their campus and university, but also their school and home contexts and the country. They make no mention of the job market or of the world. They talk in terms of the past and present but seldom of the future.

The situated meaning of their texts suggests that their primary experiences are that of disadvantage in terms of a whole range of factors, including cost and perpetuating existing divides based on schooling and rural location. Students do not feel like they have equal opportunities, and sometimes students feel discriminated against.

Students within this Discourse group feel that people with money have more opportunity, that their personal chances in the world are limited (despite being at university) because they have no choice as to where they live. They feel stereotyped and targeted, an image that some seek to challenge but others tacitly accept as a condition and just wish for a better world so that others don't have to suffer like them.

They are not very explicit about their life projects other than to be given a chance. In terms of transformation, a dominant theme is one of denied opportunity. Because of their poverty they have less access, less opportunity and feel less productive in life.

5.3.2 THEME: TECHNOLOGY MAKING LEARNING EASIER OR BETTER: DISCOURSE - LEARNING

The central concept that characterizes this theme is the centrality of technology to students' learning experiences. For most, using technology for learning is a positive choice they make but for some, it is an unfortunate necessity which they reluctantly accept. The two aspects that emerge from this theme are the concepts of ICTs making learning easier (quicker, less hassle etc.) and the concept of ICTs making learning better (i.e. offering some pedagogical benefit, improving marks etc.).

All three students in the examples earlier describe learning as their central ICT-based activity; with the first student describing its role in research, the second student her use of the learning management system and the third the way it extends his studies beyond the curriculum. The benefits are described as making studying easier (Example 1), helping retention (Example 2) and improving results (Example 3). In Example 2, however, the student describes searching as being a waste of time, so not all ICT-based activities are seen to be positive.

Many students regard ICTs as having a positive effect on their learning. From the extent of believing that using ICTs gets you better marks to more astute and carefully reflective comments that demonstrate students' awareness of how it helps them learn. Clearly, for some students, the medium makes the process of studying more pleasant: "*i am more likely to remember information from ict's than from studying from a textbook*" [2535], and "*makes me enjoy doing my assignments & projects & helps me achieve better marks for my courses*" [35]. Some students even ascribe the personal capacity to technology "*ict is like a personal tutor/mentor because you can get clarity an almost everything you need*" [968].

Issues around ICTs being easier than books raises an interesting challenge for educators: "*sometimes makes it a lot easier than reading through book to find what you need*" [2769] and "*with ict, i can ask questions , e.g. – (by typing on the*

keyboard) & page display the answers. there are many pages to compare the information i received. i just sit & search unlike moving with long shelves of a library to search for books" [53].

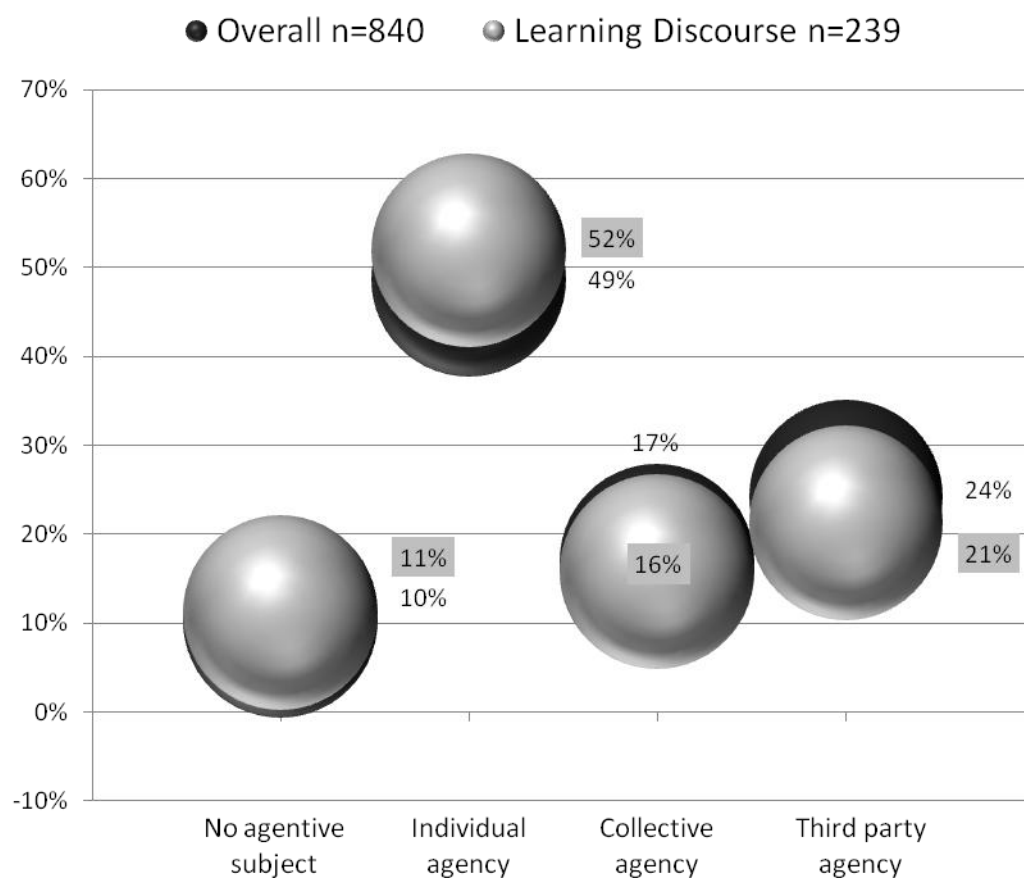
Another interesting aspect that emerges within some of the texts within this theme is the level of responsibility students give technology. Students perceive ICTs will enable them to meet deadlines "it assists me in making presentable work (e.g. printed assignments) & submit work on time" [196], and " *to be able to get info on time for assignments or cv* " [3350].

Pedagogically, some interesting benefits emerged from students within this theme. Students report that using ICTs makes it easier for them to take notes about lectures: "*lecture notes made available enables us to pay more attention and enables us to write down lecturers explanations and additional notes*" [2591].

For many of the students, there is a positive enjoyment factor to using technology: "*makes me enjoy doing my assignments & projects & helps me achieve better marks for my courses/ it makes studying enjoyable & easier*" [34], and "*its extremely fun to use icts they make school learning fun & just provide exciting challenges in life for human*" [169].

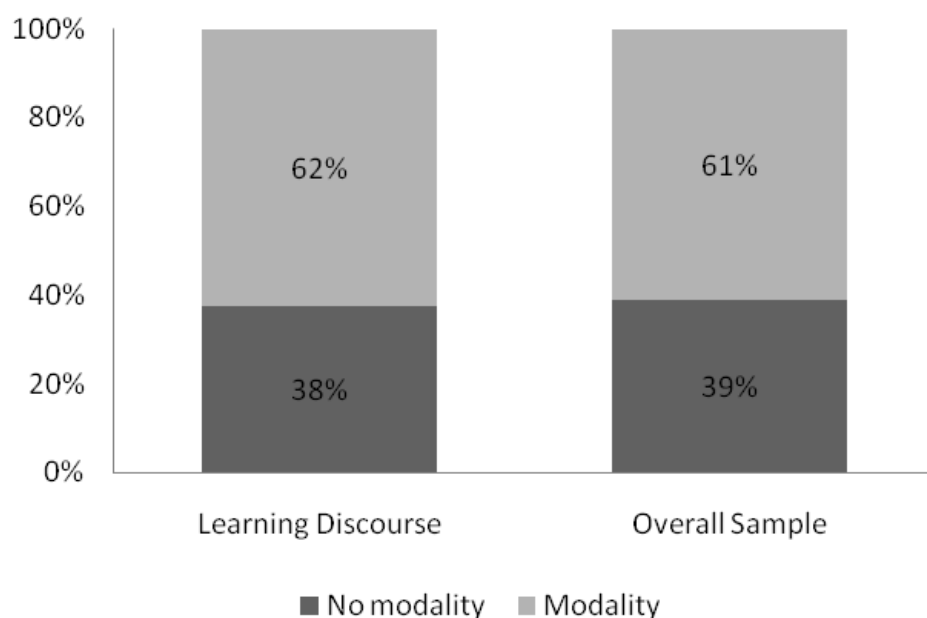
In terms of agency, as with the Globalization Discourse group, students who exhibit a Learning Discourse largely mirror the overall sample although have a slightly higher individual agency (52%) and slightly lower attributing of agency to a third party (21%).

Figure 5-4: Comparison of overall agency with agency evident in the Learning Discourse group



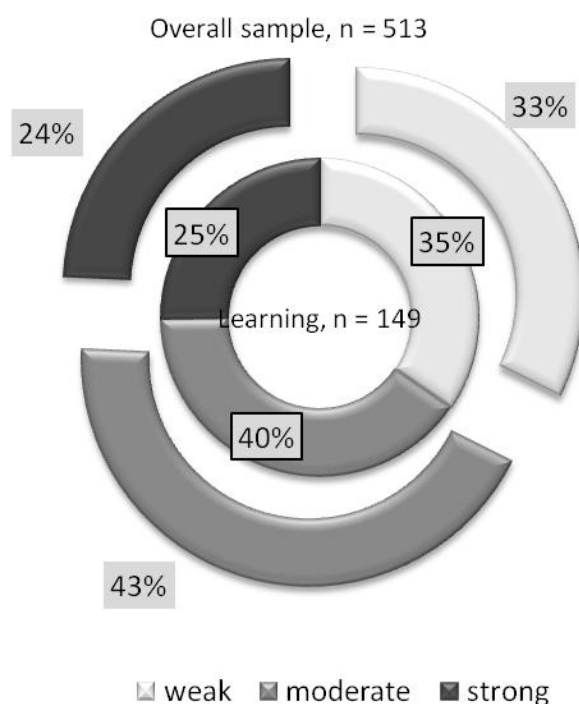
Like the overall sample the majority of students who exhibit a Learning Discourse make use of modal markers to reinforce their positioning (62%), (Figure 5-5) which is very similar to the overall sample where 61% exhibited some form of modality in their texts.

Figure 5-5: Comparison of the presence of modality markers between the overall sample and the Learning Discourse group.



Of those students who did use modal markers, the Learning Discourse group like the Globalization Discourse group were largely similar to the overall sample. In the Learning Discourse group 35% of the instances of modality had weak certitude whilst 25% of the instances had strong modality.

Figure 5-6: Comparison of the level of certitude of modality markers between the overall sample and the Learning Discourse group.



The activity that students from this Discourse focus on is the use of ICTs specifically for learning (although in a small number of situations, more broadly in terms of employment or social activities) but this is not the main focus. Learning activities are often quite specifically referred to, e.g. for assignments, using the Internet to find course information, lecture notes, essays etc. This they talk about very dominantly in terms of a campus-based context, although some do refer to off campus and residence contexts but not often.

Some of the greater Conversations that dominate this theme are the increased productivity that ICTs afford in terms of making learning more efficient and easier. There is a sense that the Internet (specifically sidelined) is helpful just because it is the Internet and that it is crucial for studying and offers value of being up to date in a way that books cannot. Many of the Conversations that influence students within this

Discourse are positive in terms of future opportunities, equal opportunities being valuable, important and even helping you and your work to be perfect. However, there are some cautionary Conversations being picked up on by a few students. Examples of these are the pitfalls of information overload, the dominance of English medium content and the impacts of social use on academic use.

One of the characteristics within this group is a strong sense of agency and proactiveness in order to achieve and realize access. Students use social networks where they can to achieve their projects and negotiate access with other students, friends and lecturers. Despite the constant issues raised regarding limited, lack of or difficult access, many on and off campus describe going to extraordinary lengths to use ICTs and even describe them as enjoyable, a positive benefit and saving them time. For example walking between laboratories, paying for access when free access is not available, arriving very early to be first in line. These efforts to circumvent constraints seem subconscious and students seem to see ICTS as part and parcel of achieving their goal. In fact, many comment about increased access needs to enable others (who are missing out) to have the same benefits as them; possibly because they are very highly driven by their projects. They see ICTs as advancing them, giving them opportunities having a real role in improving their learning, their image as students and increasing their independence.

5.3.3 THEME: TECHNOLOGY ESSENTIAL AND BETTER: DISCOURSE - DETERMINISTIC

The key concepts in this theme are the privileging of technology over other things. ICTs are seen as crucial whether they are extrinsic (i.e. compared to non-technological options like books or other perceived traditional forms of learning) or intrinsic (i.e. valuing of personal ICT skills over other non-technological skills).

This essentialism is evident in all the three examples analyzed within this theme earlier on in this chapter. In Example 1, the student talks about the computer-dominated world and the essential need for him to understand it. In Example 2, the student calls for a really huge investment in computers at her university. In Example 3, the student says the ICTs will be the next best thing for the education system.

The high prioritization of technology is evident throughout this theme with students calling for it to be compulsory: *"i think ICTs should be a compulsory course because nowadays wherever a person is working, a computer is needed"* [2494]. One student even refers to the privilege of access as being a debt they owe: *"we have the privilege of having access to and using these new technologies, which are very helpful to us. our greatest debt, which it is a joy to acknowledge is to those who put this system in place for this university"* [2634].

In relation to the critical necessity for students to know about ICTs, students are keen to show their commitment and the value it would hold for them: *" I think they must give us enough time to learn a computer and they must understand that it is hard to know every thing in your first time to even touch it"* [2310]. Keenly aware that when they have this "ability" it is an advantage: *" , It has helped me because i now know few things about computers. ... it can help because i think i can find information about everything i need. "* [2310].

Within this theme, students perceive the ability to use technology not only as better but that people who use technology are better and smarter than those that do not, as this student indicates: *"i would if it were possible ask to be taught firstly some basics that will lead me into knowing computer as i know myself"* [88]. Having an ICT ability/aptitude advances students whilst a lack of ability disadvantages them *"actually i don't know because i am not well versed with the system, i think by being orientated in the ICT field, i can be able to use it and be part of the beneficiaries of the system"* [2679].

The lack of a "desired ability" makes many students feel personally inadequate and asking for help is not always easy *" lab assistants must smile a bit! And be more visible "* [2461]. Distinctions are drawn between those who have and those that do not have skills. One of the hard things for students in this theme has been to ask for help, and the awkwardness this entails: *"I've learned to ask for help and not be afraid to use a computer"* [2465].

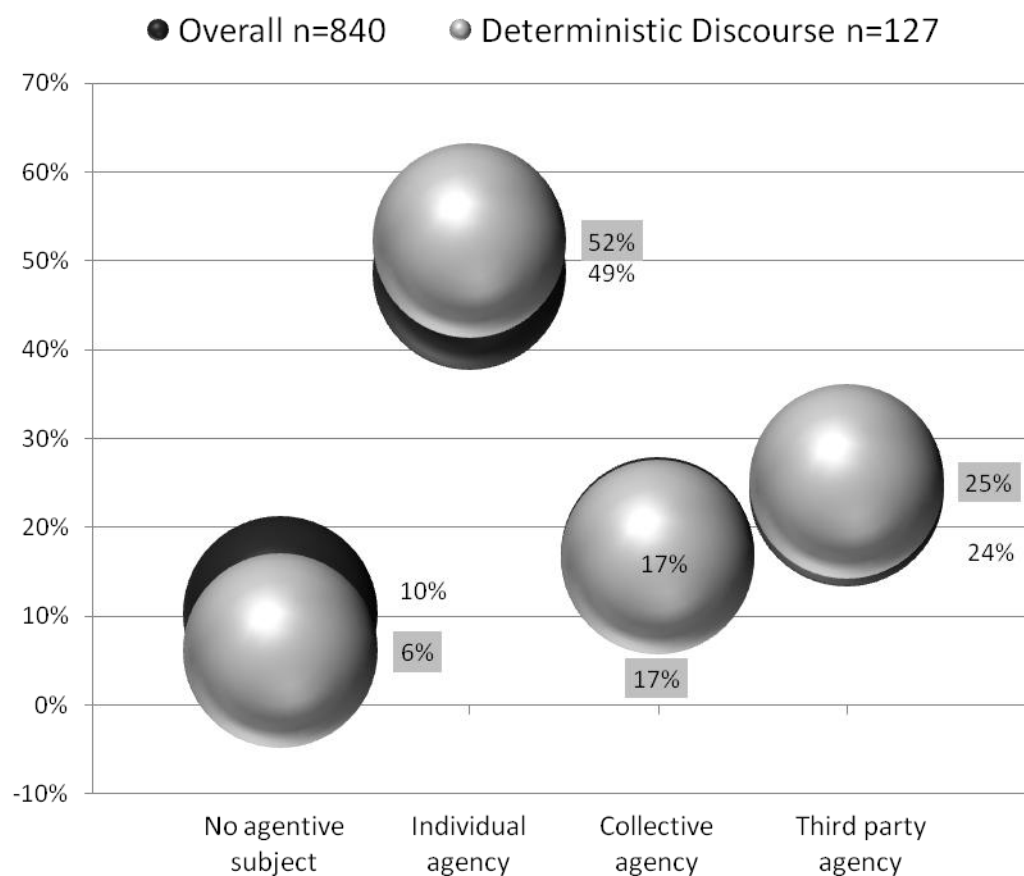
As the previous quotes indicated, students with low ICT ability want to learn more, they wish for access to practice with ICTs without pressure. The consequences of this means they have to make hard choices about their use of ICTs; consequently

they have a low tolerance for non-essential use, e.g. porn, games, chatting. Students who have what they perceive to be valid learning purposes get frustrated by peers who appear to be pursuing non-essential or social activities: *"i want to check something in the lab, then i see some students sending sms's or looking for the pornography"* [219]; *"when there are many students waiting to do their assignments & other students are busy opening pornography, games & chatroom website. this is the hardest part when having to access ict on campus"* [260].

The global Conversations that underpin this Discourse are ones of value of ICTs (even without any knowledge as to what or how they might be valuable). ICTs are regarded as essential and necessary. Little discussion is given as to exactly what or how ICTs are necessary or useful, which underlies the strong acceptance of ICTs "just because" they are there. Words like vital, essential etc. give one some idea as to the level of conviction students within this Discourse have with regards to the role of ICTs. Students within this Discourse group have a strong feeling about the role of their personal ability to make use of ICTs; either being cognizant of the value-added advantage their knowledge and skills offer or aware of the inadequacies of their lack of skills.

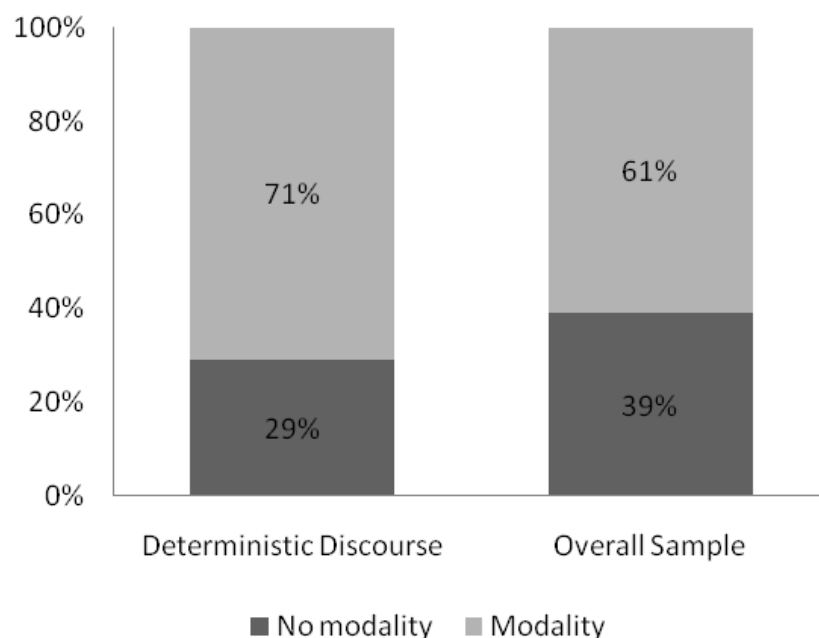
In terms of agency there are some differences between the Deterministic Discourse group and the overall sample for example only 6% of this group do not indicate an agentive subject in their texts (compared with 10% in the overall sample) Consequently they exhibit slightly higher use of individual agency (52% as compared with 49% of the overall sample).

Figure 5-7: Comparison of overall agency with agency evident in the Deterministic Discourse group



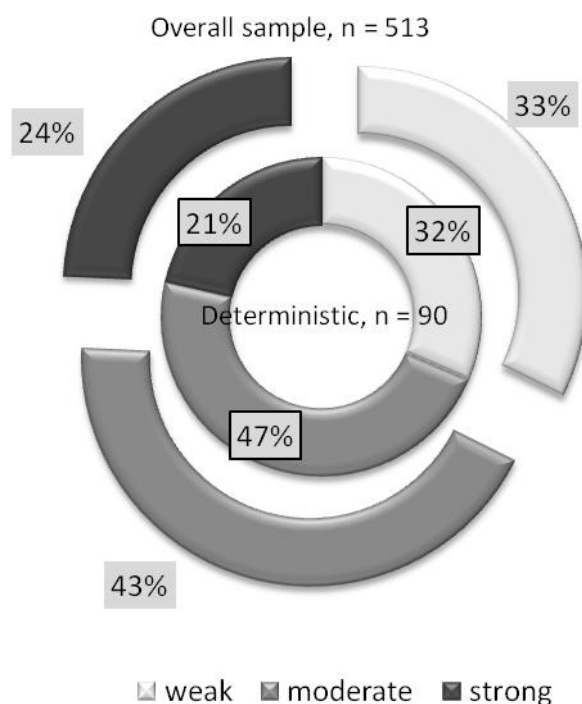
Students who talk about ICTs deterministically also make much higher use of modal verbs compared to the overall sample with overall, with 71% of the comments exhibiting some form of authority within their texts compared to 61% overall.

Figure 5-8: Comparison of the presence of modality markers between the overall sample and the Deterministic Discourse group.



However the level of certitude is still dominantly moderate (47%). However, students who focus on the role of their ability in terms of ICTs, although they also speak from an individual viewpoint, do not exhibit such strong modality. A quarter use no modality in their texts at all and some 20% less have strong modality in their texts.

Figure 5-9: Comparison of the level of certitude of modality markers between the overall sample and the Deterministic Discourse group.



Students within this Discourse tend to be quite unspecific regarding the context they are talking about; with universities alluded to generally and sometimes on campus a bit more specifically. Similarly, in terms of social relations; where other "students" generically are more often referred to than specific groups, e.g. friends and classmates, although one specific group mentioned in terms of deterministic ability were laboratory assistants. Again, the ICT-based activities were most often not specifically spelled out and generically referred to as studies or learning-related tasks. Students within this group were not empowered. They were waiting to learn, wanting to learn, desiring assistance and thought lecturers should teach them. Some seemed aware of what they had to their advantage compared to the students and thought whilst they were fine, many were not.

This seems to impact more negatively on their identities, with students positioning themselves as interested or wanting to learn, not competent computer users and

some aware that they "had it", i.e. that they were a person who knew. Those who did not feel empowered to act were waiting for some transformation. Transformation was evident where students felt that they had the advantage of knowledge and skills, talking about how things were made possible, made work easier. Students without ability were keenly aware of the gap and that, despite their desire, their lack of ability meant they had limits to what they could achieve.

5.3.4 THEME: TECHNOLOGY GIVES YOU KNOWLEDGE: DISCOURSE- LIBERATION

The focus in this theme is the centralization of the activity of finding information. In addition, there is an association (either directly or indirectly) between information and knowledge and the opportunities that this enables; although a small group of students feel the opposite and find the information inhibiting.

In Example 1, the student describes finding information on her own terms and the knowledge that ensues the most important thing for her. The student in Example 2 sees the informational gains from ICT and the knowledge he gains as giving him power. The student in the Example 3 sees the benefit of the huge amount of information available but cautions against uncritical/uneducated use of it.

An example of uncritical information seeking practices that are nevertheless empowering for students is how Google is used: *"I think it's good. It is good. Because if you don't understand a question, you can ask the google. And google will research for you. And if you don't t understand the textbook, you can learn it online"; and "it gives you info from around the world as well as how trustworthy and old they are, and who compiled them"* [372].

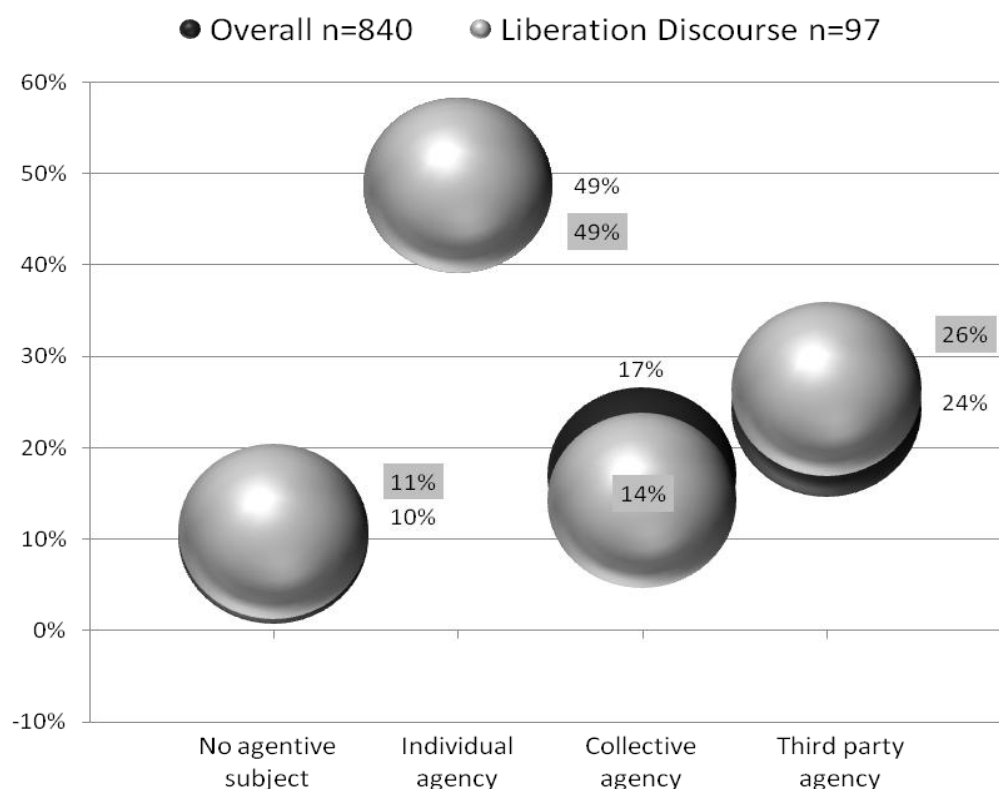
However, whilst for some students this is empowering, for others it is constraining and they find the vastness of information has a negative impact on their learning: *"the sites with information tend to contradict each other, and that confuses me"* [1875], and *"i honestly want to trust icts and i hope that people should stop putting rubbish in then, i just only wish that facts could be reliable"* [2113].

The direct and indirect links to knowledge are often in relation to expansion of the curriculum: *"a vast array of information available on the internet./ they are an essential tool, that will provide value to whatever course(s) one is doing. they are the way forward (of the future)"* [2584]; and the opportunity to get knowledge without teaching *"if everybody would have an access to use ict's it would be easy to get knowledge without being taught skills and abilities etc"* [775].

The key theme here that distinguishes this Discourse from others is the use of ICTs for information and the knowledge that this provides. The Internet is specifically referred to in most texts as one of the main or component activities in which the students are directing their efforts.

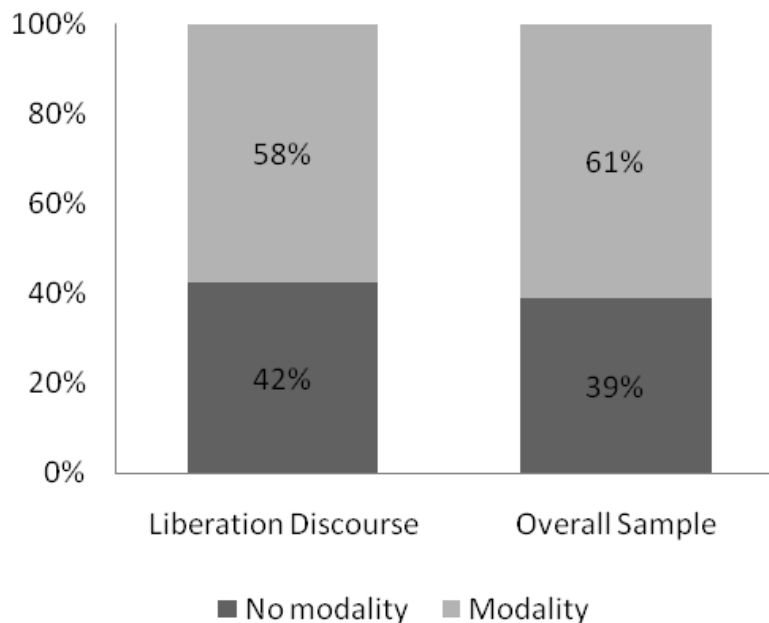
Figure 5-10: Comparison of overall agency with agency evident in the Liberation Discourse group

Individual agency is dominant throughout the texts with students from the Liberation Discourse group having a slightly lower collective agency (14%).



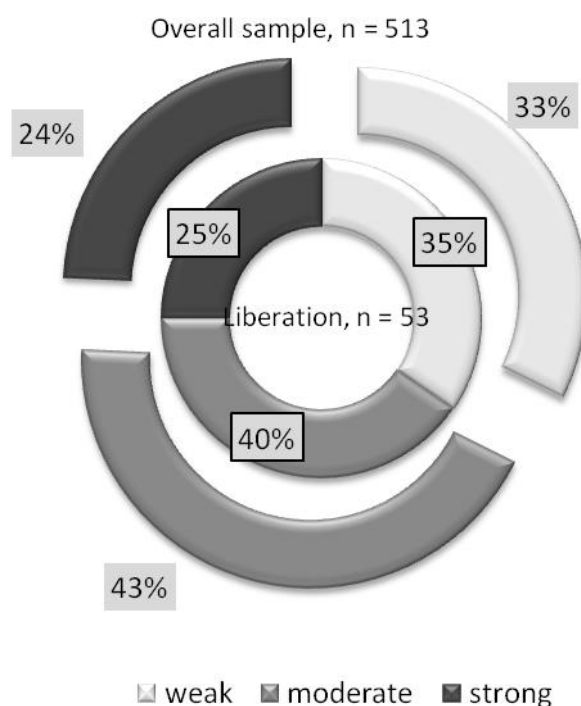
Overall, students who adopt a Liberation Discourse do not exhibit as much modality in their texts as other Discourse groupings (only 58% used some form of modality markers).

Figure 5-11: Comparison of the presence of modality markers between the overall sample and the Liberation Discourse group.



Again there was little difference between the Liberation Discourse group and the overall sample. It is interesting that across the sample over a third of the students exhibit no signs or markers of modality. As modality signals the degree and type of involvement the person has with his or her message, this suggests that students are cautious about making judgments. However amongst those students who did make use of modality in their texts over two thirds had moderate to strong modality indicating a reasonable degree of assurance and conviction in their texts.

Figure 5-12: Comparison of the level of certitude of modality markers between the overall sample and the Liberation Discourse group.



Within this Discourse, students tend to refer to a generic group of peers within this Discourse without specifically mentioning friends, family or lecturers. Students refer to a mixture of contexts usually in terms of inadequacy of facilities and access. However, they do not seem to let that inhibit their projects (fundamentally accessing the Internet for some purpose) and have a strong sense that what the Internet offers them is worth the sacrifice in terms of time, effort, negotiation etc. This is probably because the greater Conversation that dominates this group is one of the Internet as a dynamic source of information (always current and up to date); a way to step beyond the narrow confines of one's local setting; as providing better information than other sources (library and verbal); and that, despite the huge array of information, it is uncensored and available to all to find. Further underpinning these greater Conversations is an individual sense of transformation that access to the Internet gives you knowledge. Relevancy and evaluation do not seem to be part of these students' Discourses. They believe that just by getting this information, their understanding and knowledge will increase, and this appears to drive them to make or find the solution. Personal identities are not as embedded within this Discourse,

although some seem to feel that they can grow through use of ICTs, that ICTs afford them greater independence and self reliance, and that they are privileged to be able to have access to ICTs.

There is an interesting group of students who have a more critical stance on this Discourse. They talk about the Internet in a similar way, i.e. access to information, but have additional feelings about the activity that denotes a converse view to the first group. They find searching for information irritating, unreliable, and are concerned about the reliability and relevance of information; with some aware of contradictions and facts not being true, which confuses them. Others comment on wasting time with unnecessary information and spam.

5.3.5 THEME: TECHNOLOGY MAKES LIFE EASIER OR HARDER: DISCOURSE - PRODUCTIVITY

The main concepts within this theme are about the role of technology in making life easier, reducing workload and stress. However, a contradiction often emerges within this theme as technology also creates new workload and stress.

In Example 1, the student talks about the time saving, efficiency of the Internet but at the same time, the pitfalls of addiction to it. In contrast, the student in Example 2 finds using ICTs waste time; yet she persists in their use.

Other students whose texts relate to this theme also refer specifically to issues such as saving time: *"save time, makes work easier, communication faster"* [2048]; making things easier *"it makes life easy and things go smoothly than you expected"* [419]; even saving money *"it really makes things much faster and easier. it also saves money, since electronic copies are easy to send"* [2126]; and the effort involved with libraries and books *"don't have to pile huge volumes of books (hard copies) on my desk. all that can be retrieved from micro chips"* [107]. For other students, it wastes time: *"when i search for answers, the computer display too much of web pages to search on, which is time consuming & sometimes not valuable or irrelevant at all"* [53].

The contradictions are evident for some who realize the incongruity of spending time to save time: *"can be time consuming if you lack self discipline. not good health wise"*

[1072]; whilst others are apparently unaware of the contradiction, for example saving time by skipping class and then spending time to wait in a queue: *"The labs get really full so you have to wait in line, that takes up too much time. So you have to search for a lab that has a free pc. i like the fact that i can do my some of my tutorials online instead of going to class"* [2837].

The biggest theme that comes through in this Discourse in terms of external Conversations is that ICTs (generically) save you time. This saving is sometimes extended to saving money and helping to organize one's life. The contexts to which the students refer tend to be the university, mentioned generally as a place - although sometimes references are made to on and off campus as two distinct places of access/use. Students tend not to draw other people into their social relations and talk very much in the first person in terms of their experiences. What emerges in the situated meanings of this Discourse is that students perceive productivity gains whilst enduring productivity losses, e.g. saves you time although have to queue for a long time to use it; helpful despite bandwidth constraints. The productivity for many of these students is not a consequence necessarily of better access. Students talk about compromises they have to make to use ICTs, how they share, have to wait for others to finish or even how they group together with others to afford the costs. Activities are also quite generally referred to as studying or doing assignments and students do not make specific mention of the types of tasks they engage in. Students do not appear to associate very strong identities with this Discourse, e.g. a couple positions themselves as "knowers" or high users etc. There is some evidence of transformation with individual students saying it "takes over your life" and makes things happen.

However, a contrasting yet equally dominant viewpoint within this Productivity Discourse is that ICTs are, in fact, a waste of time. Students with this view regard the mass of information as time wasting because it is confusing, irrelevant and slow. There is a sense within the situated meaning that use of ICTs is inevitable but at a cost; the main context being university infrastructure with a strong sense of this not being good enough for the purposes required by students.

Given the small sample of students within the Productivity Discourse (n=64) a detailed examination of agency and modality was not conducted for this group.

5.3.6	THEME:	TECHNOLOGY	DISCONNECTS	YOU
	DISCOURSE:	DISEMBODIED		

The key ideas that emerge within this theme are in relation to technology being not quite as reliable or as good as something tangible, whether that is the personal or the physical.

In Example 1, the student talks about how confusion arises using ICTs and how the gap between the lectures and the student widens. In Example 2, the student talks about pen and paper never letting you down.

These same issues emerge in different ways in terms of other physical artefacts and the benefits of these; whether they be books *"a person can depend too much on using icts & not even use their own mind to think & study from books"* [216], or pen and paper *"when you use computers for mathematical problems you are always far from practicing as it pulls you away from the pen and paper"* [1064].

In terms of interpersonal relations, some students feel alienated by the lack of a presence of a real life person: *"after finding and reading updated notices, you still have a few questions and you cannot ask the computer"* [2838] and *"i think that if icts a solely used to educate they will take away the essence of teacher-student interactions"* [2288].

Given the very small sample of students within the Disembodied Discourse (n=19) a detailed examination of agency and modality was not conducted for this group.

5.4 SECTION 3

This section provides a picture of the dominance of the various Discourses across the entire corpus of text, i.e. the "big picture"; and looks at some interesting similarities and differences across various subsets of the corpus.

5.4.1 PREVELANCE OF DISCOURSE GROUPS

In the previous section, I described the six Discourses evident within the texts of South African higher education students. In this section, I discuss the frequency of Discourse occurrences (see Figure 5-13) within the sample of text and define and name the groupings as Discourse categories. Two hundred and fifty six students had two Discourse evident in their texts (in the coding process I limited the categorization to the two most dominant Discourses). Consequently when discussing the frequency of Discourses I report of the numbers of instances of Discourse (which total 1096).

The dominant Discourse is one of **Globalization**, with 34% (370) of students in the sample drawing on this Discourse in some respect. Common elements are global opportunity, global citizenship, the information society and notions of the digital divide, having and not having access, and disadvantage. Overall, this Discourse is differentiated from others by the strong association with disadvantage and the view of global opportunity generically (whether it be information, learning, communication or future prospects).

A **Learning** Discourse is the next most dominant Discourse, with 29% (315) of students identifying with ICTs in this kind of way. The key element is ICTs taking on a strong imperative in terms of learning. Common elements include references to learning or studying activities in terms of their efficiency and effectiveness. This Discourse is differentiated from other Discourses by its emphasis on learning and not just productivity generally.

Discourses of Globalization and Learning account for almost two thirds of the students' perceptions of ICTs (63%).

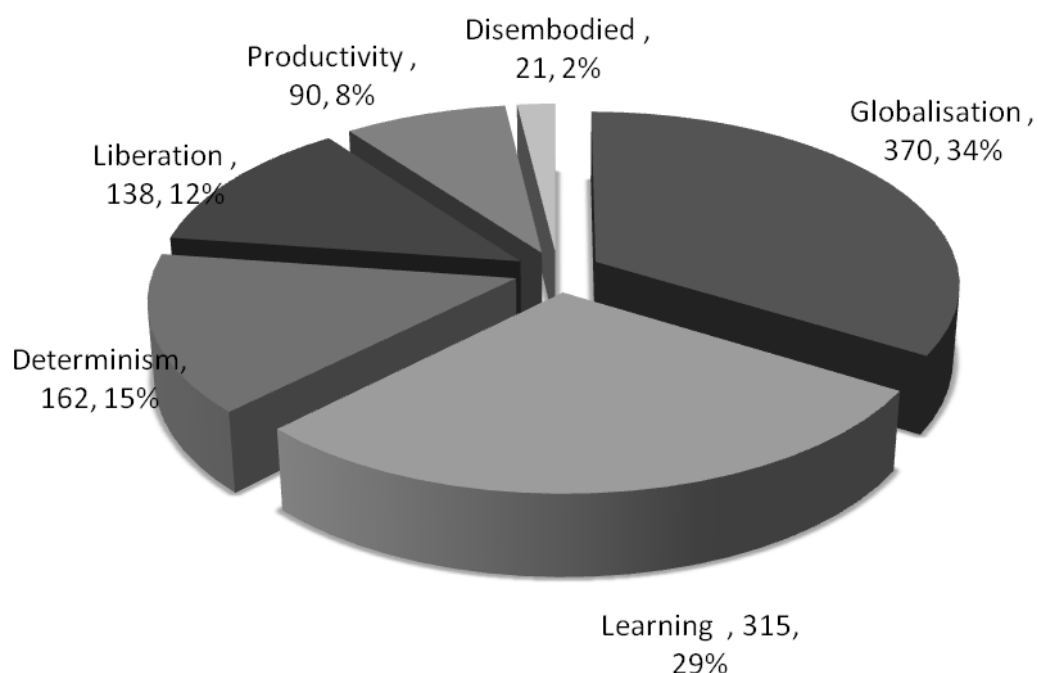
The **Deterministic** Discourse is evident amongst 15% or 162 students. The common themes that emerge are a strong, dominant (almost uncritical) view of technology as

being essential, and, by association, the skills to use ICTs as being more highly valued and necessary than other skills.

Discourses of **Liberation** were evident amongst 12% (138) of students and involve a view of the use of ICTs primarily as a means of acquiring information and its advantageous effects. It has a strong positive association with knowledge with a lesser awareness of the need to approach information with caution.

Still evident within the corpus, although less frequently, were the two Discourses I have termed **Productivity** Discourses and **Disembodied** Discourses. The former accounts for 8% of the sample (90 students) and holds a view that technology makes life easier, reduces workload and stress. The common theme of the Productivity Discourse is the view that ICTs are central to personal productivity or non productivity.

The **Disembodied** Discourse only accounts for 2% (or 21) of students within the sample. This is a view of ICTs as a space that is lacking in physical presence. It is generally expressed as making students feel disconnected from the lecturer and other tangible physical forms, such as pen and paper and books.

Figure 5-13: Frequencies and percentage of Discourse types⁷

There are of course some similarities between the Discourses. For example whilst there is some overlap in ideas between Discourse of Globalization and Liberation, as information available via the Internet is inherently global in nature, the difference is that students who exhibit a Globalization Discourse do not foreground access to information – they foreground the opportunity to be globally connected. Students who exhibit a Liberation Discourse foreground the link between information and knowledge; and whether this is local, national or global is irrelevant to them.

The efficiency aspect of the Learning Discourse and the efficiency aspect of the Productivity Discourse are also similar in that they make tasks easier for an individual. However, the nature of the tasks which are foregrounded are different. In the Learning Discourse, the tasks and activities in which the students engage are directly related to learning or studying activities; whereas in the Productivity

⁷ * the graph represents the number of instances each particular Discourse was identified in the texts. Of the 840 individual respondents 221 exhibited more than one type of Discourse (see **Error! Reference source not found.**)

Discourse, the tasks are generic and relate to a broader more all-encompassing purpose not just limited to the university.

It is also interesting to note that a quarter of the sample (221 students) had mixtures of more than one Discourse in their texts (**Error! Reference source not found.**). In Section 3.5.4, I discuss the view of identities as not being static or necessarily singular and that often there are tensions between students' multiple Discourses.

The Discourses of Globalization and Learning are not surprisingly the two that most frequently occur together, as they are also the most dominant Discourses within the sample.

Table 5-1: Comparison of multiple Discourses

	Globalization	Learning	Determinism	Liberating	Productivity	TOTAL
Globalization	28 ⁸	70	33	26	14	148
Learning		nil	26	11	21	58
Deterministic		nil	4	10	7	17
Liberating		nil	nil	2	3	3
Productivity					1	
TOTAL		70	59	47	45	256

The association of the two indicates that some students are caught between valuing the opportunities that technology has for learning and the difficulties associated with access, as demonstrated by the student's quote below.

ID-3093, Q1, There is only one computer access for all the students on campus, for all facilities, so every time we have assignments, the lab is so easily full almost all the time, Q2, The lab is opened Monday to Friday, and is accessed on hourly basis. If it is full in another hour, then you book

⁸ The multiple discourses within the same Discourse group mean that students had a mixture of both sub themes with a Discourse Group eg an Information Society and Digital Divide Globalization Discourse

another hour., Q3, It is sometime difficult and straining to always ask permission from a friend or neighbor to use his/her computer., Q4, Sometimes, my mother asks on my behalf from some of her friends, that she works with, Q5, The use of internet is very difficult and strenuous at times as the sites are not applicable and accessible at times. It is also hard to print some information from the lab and lastly, these new memory sticks that have replaced floppy disks, ar,Q6, The use of sites like Dti and the news at SABC 3 and labour.net.com, help me keep ahead on my studies. I am able to read ahead, and sometimes challenge my lecturers on subject matters that I read about. Q7, My institution was not being helpful at all as far as ICTs are concerned, there is poor system support personnel, hard to access internet round the clock, lecturers hardly prepare lessons with the use of laptops and other forms that some instit. [ID 3093]

This isiXhosa-speaking female student is undertaking undergraduate studies in Business. She describes the complexities of access and the cost in terms of time; and favors but is strongly aware of the specific learning benefits she derives from technology when she is able to keep not just up to date but ahead of her studies and engage more confidently with her lecturer.

There are also some interesting contradictions within the mixed Discourses that suggest these might be in a state of flux for students. For example students who have a Deterministic Discourse and therefore an almost blind acceptance of the need for ICTs at university are tentatively beginning to become aware of their learning benefit.

ID-347, Q1, Students who use computers and the internet for games and personal use., Q2, It helps a lot to use

computers and labs if its in the evening because the day scholars and Farani students have left by then, Q3, , Q4, , Q5, One can become too dependent on it that you don't use other resources for references and extra help, Q6, It makes my studying very easy, as im a visual learner, I prefer ICT for helpfulness Q7, I wish that there could be enough computers regardless at which time of the day it is. If I want access to ICT for my studies, I must be able to gain access to it.

[id347]

However, there are also contradictions in the mixed Discourses where students think that saving time using ICTs is a learning benefit when it probably is not. In the example below, the benefit of having access to the latest information and saving time by not having to go to the library is contrasted by a lack of access, the queues and the time ICTs take to use. This suggests that a student will use ICTs as a preferred choice despite the inconvenience and convince themselves it is for the better in terms of his or her learning.

Q1, faculty computer lab accepts students of higher levels than me. There will be a long queue at any given time at the library for computers., Q2, The system of fining people who overstay in the computer lab, makes it easy for everyone to access the ICTs, Q3, buying a personal computer is very expensive so I can only rely on internet café's, Q4, the café's are in the central business district (CBD) which is accessible to everyone, Q5, can be brain draining of one does not know what to do, Q6, ICTs are not time consuming when one knows what they are doing. Using ICTs saves energy and time. Saves people from strolling up and down the library collecting books when gathering information.

ICTs also helps me to know the latest information Q7, ICTs enhance life at university but if accessing the ICT becomes a hassle, it becomes time consuming. I urge universities like my own to repair broken computers and advance the programs available
Id 809

5.4.2 DEMOGRAPHIC DIFFERENCES BETWEEN DISCOURSE GROUPS

Gee (1996) also connects Discourses to a particular social group's way of being in the world, its "form of life", its very identity. Here, I examine how different ICT Discourses are connected to different social groups of students.

The demographic variables that varied across the Discourse groups were gender, age, language and socio-economic group. The first two (gender and age) were not factors students noted consciously in their own texts as relating in any way to their access to or use of ICTs. However, socio-economic background and language were aspects of students' identities that many felt had a direct influence on their opportunities or actual use of ICTs.

Within the overall sample, the pattern of Globalization and Learning emerged as the dominant Discourses and Productivity and Disembodied the least dominant. What I note here is obvious deviation from this norm in terms of the demographic grouping, i.e. where one of the Discourses is markedly more or less frequent within a particular demographic group compared to what one would expect in terms of the overall sample. I also examine each Discourse group and note where it is skewed towards a particular demographic subgroup.

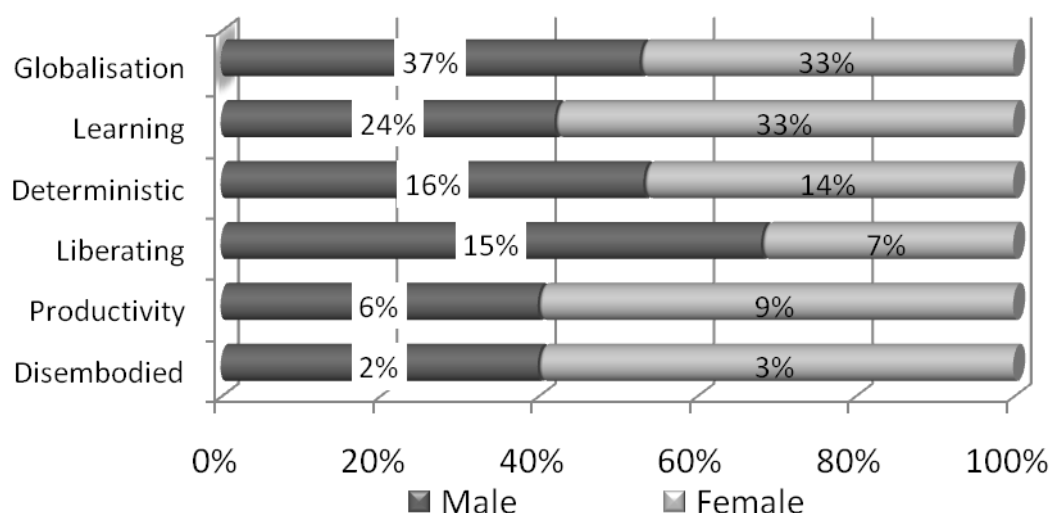
5.4.2.1 GENDER

Overall 804 students within the sample provided demographic information about their gender with there being a higher number of males students (n=44, 55 %) compared to female students. The data represented here enables a view of the demographic distribution of the Discourses in two ways. A percentage (out of 100) on the vertical

axis, shows the distribution of Discourses within each subgroup. In this way, one can examine a specific demographic subgroup, e.g. female students, and see that amongst this group, it was found that 33% (of 100%) had a Globalization Discourse whereas only 3% had a Disembodied Discourse. The horizontal axis, provides a visual representation of each demographic category as a proportion of the total responses for each Discourse grouping. Thus we can see that whilst 33% of female students had both a Globalization Discourse and a Learning Discourse relatively more female students had a Learning Discourse (60%) compared to male students (40% (see Figure 5-14).

Male students had a strong Discourse of Globalization (37%) with fewer sharing the Discourse of Learning (24%). Overall, male students' views on ICTs were more widely spread across the Discourse groupings than female students' views, which indicate less homogeneity of meaning amongst this group. The Liberation Discourse was dominated by male students (65% of responses in this group were from male students) whereas, although the overall number of students with productivity and Disembodied Discourses was small (only a total of 10% of the overall sample), 60% of the responses in these categories were from female students.

Figure 5-14: Comparison of gender distribution with the Discourse groupings

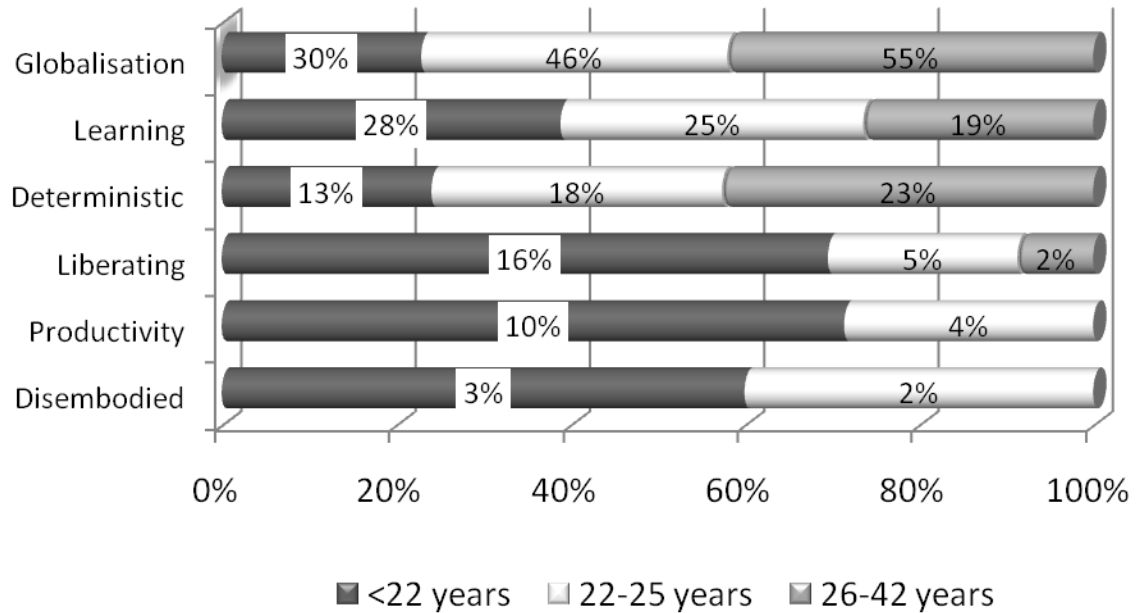


5.4.2.2 AGE

Younger students exhibited greater diversity of Discourses than older students, with 30% exhibiting a Globalization Discourse; followed closely by 28% with a Learning Discourse; and then a group of 39% distributed across Liberation (16%), Deterministic (13%) and Productivity (10%) Discourses. Students in the slightly older age grouping of 22-25 years old were more strongly aligned to the Globalization Discourses (46%); followed by Learning Discourses (25%); and Deterministic Discourses (18%). Students older than 26 years had a dominant Globalization Discourse; which was followed by Deterministic Discourse (23%); and then a Learning Discourse (19%).

Again, although the overall number of students with Productivity and Disembodied Discourses was small (10% of the overall sample), these Discourses were dominated by younger students.

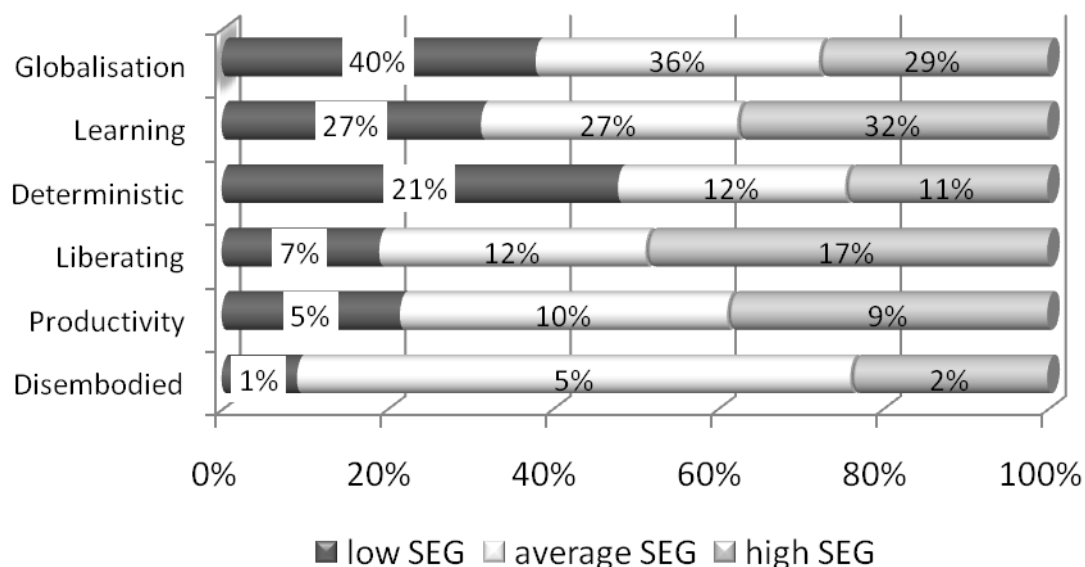
Within the Globalization and Deterministic Discourses, there were noticeable increases in dominance as students got older; whereas this was reversed in the Learning Discourse which decreased with age with most in the young under-22 age group. This suggests younger students are more focused on the use of ICTs for learning and less resigned to its inevitability compared to older students.

Figure 5-15: Comparison of age distribution with the Discourse groupings

5.4.2.3 SOCIO ECONOMIC GROUP

Students from a high socio-economic background had a dominant Learning Discourse (32%) followed by Globalization Discourse (29%). They also comprised over half the students who exhibit a Liberation Discourse. Students from low socio-economic backgrounds had a dominant Globalization Discourse and comprised over half the students with Deterministic Discourses.

Figure 5-16: Comparison of socio-economic background within the Discourse groupings



Very few students from low socio-economic backgrounds had Discourses of Liberation, Productivity or Disembodiment. These latter Discourses were predominantly comprised of students from average or high socio-economic groups.

Issues related to socio-economic concerns, whether previous or current, are very dominant in the texts in terms of Globalization Discourse; and 179 of the 370 students within the Globalization Discourse mentioned some aspect of cost of ICTs being an issue.

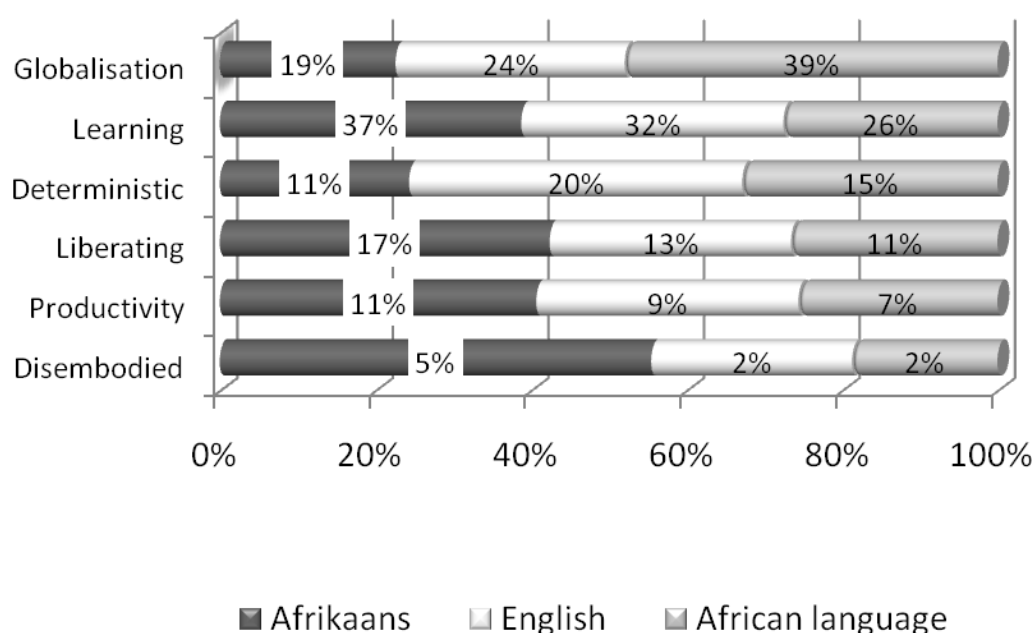
The issues in relation to cost cover both students' present economic situation: "*it costs money in the internet café, which of course my budget can't cover*" [2333] and past economic situation "*no one have a computer in my family and i have no money to go to internet café*" [3161].

5.4.2.4 LANGUAGE

English- and Afrikaans-speaking students (both comprising 11% of the sample each and representing 168 students in total) had a dominant Learning Discourse (37% and

32% respectively); whereas students who spoke a South African language of African origin (in this sample, the majority were Xhosa, Zulu, Sotho or Setswana speakers) had a dominant Globalization Discourse (39%), which also comprised half the students within this group.

Figure 5-17: Comparison of home language within the Discourse groupings



Students raised the issue of language in their texts in two ways. In one sense, the dominance of English online was a problem for students *"if there could be information in the south african context and in african languages, it would be easy for me to get all the information i need in my profession"* [867]; whilst other students commented on how the computer programs help them with language difficulties *"there is an online dictionary that is a lot of help and spelling check programme"* [2625].

5.4.3 EXPERIENCE AND ACCESS

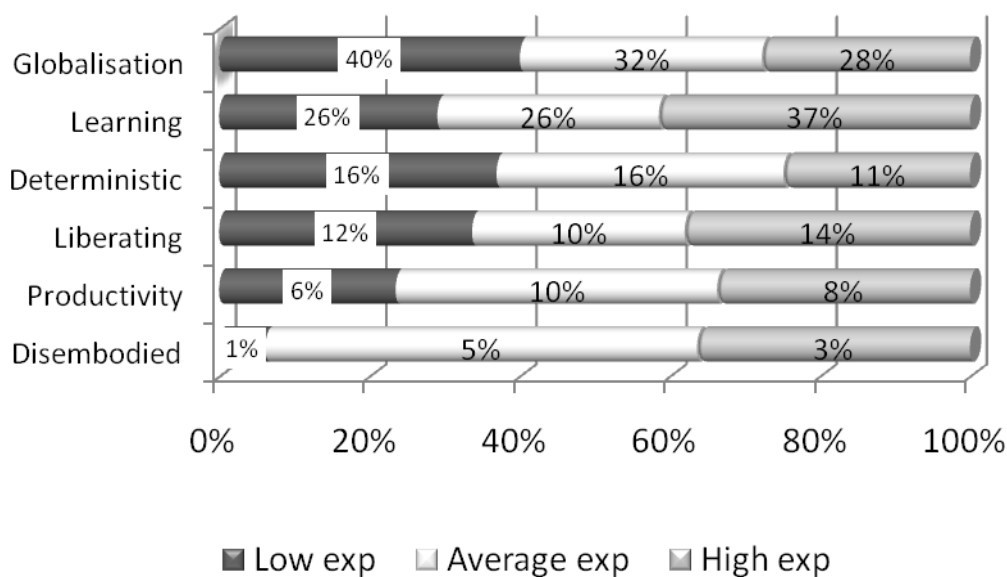
In a study of issues related to students' success at university, the first and most important factor that is seen to enable or constrain students' abilities to negotiate

university is their background (Council on Higher Education 2010). In this research, background refers to "*skills, abilities, pre-intentional assumptions, attitudes, practices, capacities, stances, perceptions and actions*" (Council on Higher Education 2010, p44). In the first part of this section, I examine the relationship of students' social backgrounds with their Discourse identities. Here, I examine another aspect of their background – the relationship students' ICT skills have with their Discourse identities.

Two ways of examining capacity are the level of experience students have had in terms of using ICTs prior to university and the level of access they have to ICTs off campus. This gives one some idea as to the physical and personal resources they have to draw on in terms of their ICT practices.

Not surprisingly, experience and access are both linked to increased opportunity. Figure 5-18 shows that students with high levels of experience have a dominant Learning Discourse (37%) and comprise nearly half the students within this group. Students with low experience have quite a range of Discourses that are still dominated by Globalization Discourse.

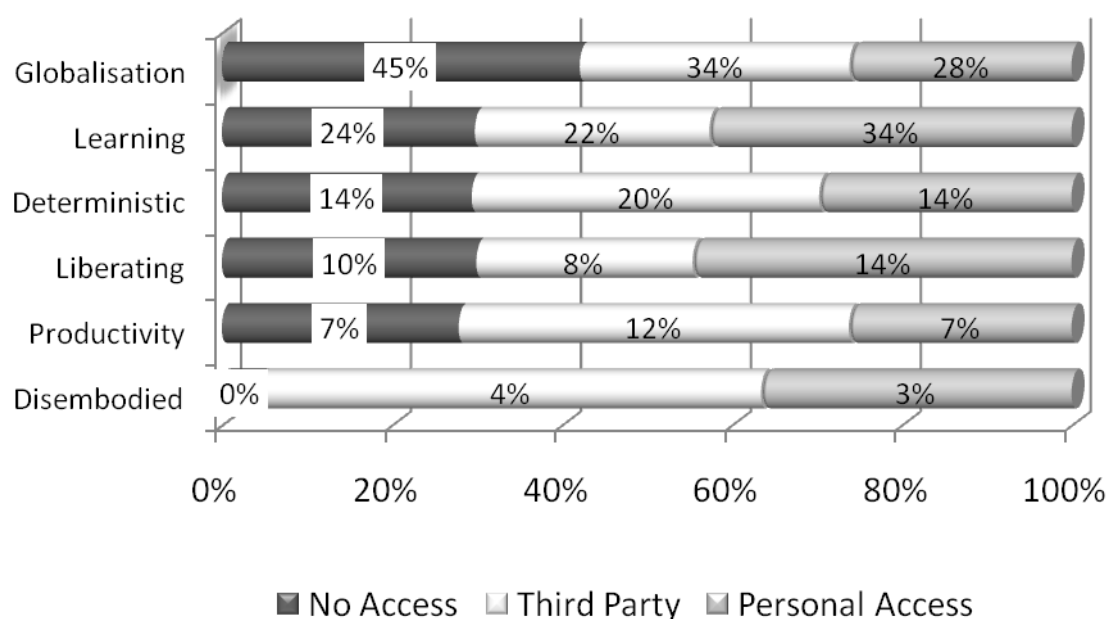
Figure 5-18: Comparison of students' levels of ICT experience within the Discourse groupings



Experience was a significant component of the Deterministic Discourse as students highlighted the necessity for knowledge about and skills with ICTs as an essential component of life and learning. It was found that 91 of the 162 students with Deterministic Discourse commented about ability as an issue. Some of the comments in relation to ability center around the problems this causes for others: *"some people are not equipped and do not have adequate skills to enable them to be competent in icts and that's a disadvantage for learning"* [893] and for themselves *"i don't understand how to use it and that is frustrating"* [1988].

Figure 5-19 shows that access has a similar pattern with students who have high levels of access (i.e. personal computer off campus) exhibiting a dominant Learning Discourse as well as a strong Liberation Discourse. Students with no access to ICTs off campus have a dominant Globalization Discourse (45%).

Figure 5-19: Comparison of students' level of off campus access to ICTs within the Discourse groupings

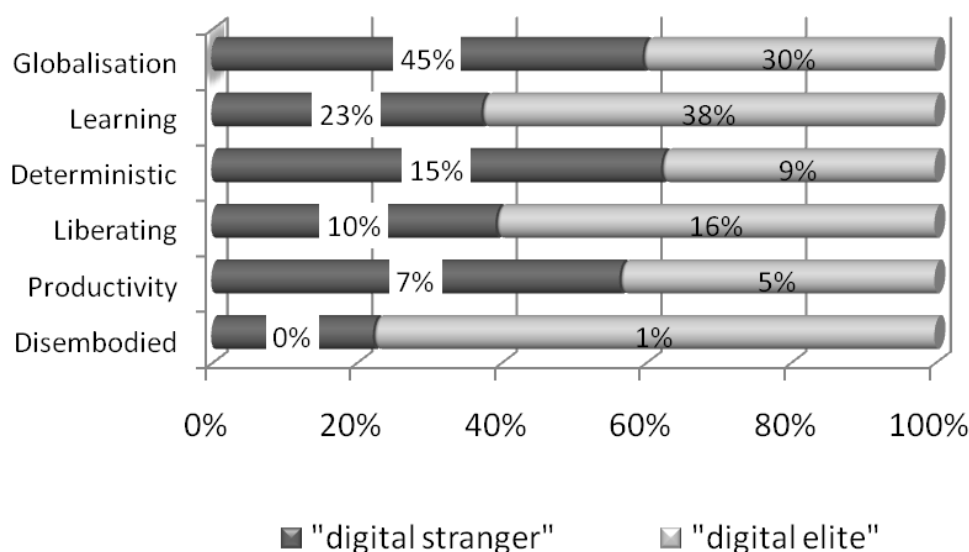


Access to ICTs must be one of the most dominant themes within the texts spanning a range of Discourses. This is not surprising, as the survey was centered on access

and prompted the students with many questions about their access both on and off campus, giving them opportunities to raise issues of access in the open-ended questions. In Section 1, when we examined the content of various examples of texts within themes, access featured strongly in the content of many of them.

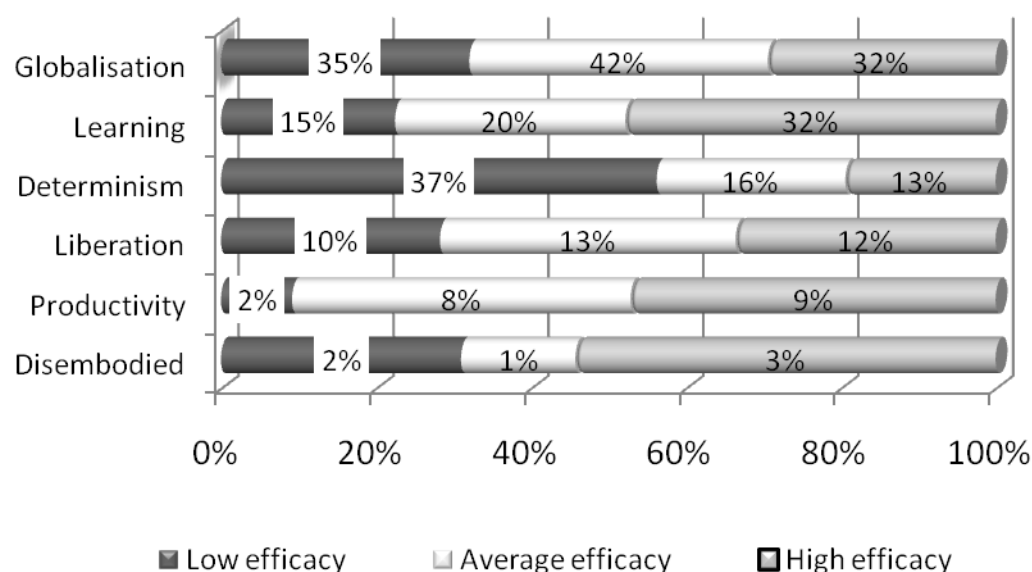
The “digital elite” / “digital stranger” categorization of the extremes of students' digital identities as outlined in the Chapter 2 combine elements of access and experience alongside how students learn to use ICTs. The groupings were calculated according to the same criteria as outlined by Brown and Czerniewicz (2010) which involved selecting students who were within the Net Generation age grouping and comparing the subsets who had grown up using computers and learnt to use ICTs themselves or through social networks with those that had minimal ICT experience and who lacked personal access to ICTs. It is therefore not surprising that the “digital elite” dominate Learning and Liberation Discourses whilst the “digital strangers” dominate the Globalization and Deterministic Discourses. These categories only comprise 340 students in the total sample as they only capture the extremes of the literacy divide. However, it is interesting to see how starkly the difference in Discourse groups is represented in Figure 5-20.

Figure 5-20: Comparison of distribution of students categorized as "Digital Elite" and "Digital Strangers" within the Discourse groupings



In terms of their reported self efficacy (their perception of how good their ICT skills were) , students with a low self efficacy had a dominant Deterministic Discourse (37%), Globalization Discourse (45%), low Learning Discourse (15%) and Liberation Discourse (10%); whereas students with a high self efficacy had a dominant Learning Discourse (37%).

Figure 5-21: Comparison of students' perceived self efficacy within the Discourse Groupings



5.5 DISCOURSE EFFECTS – USE

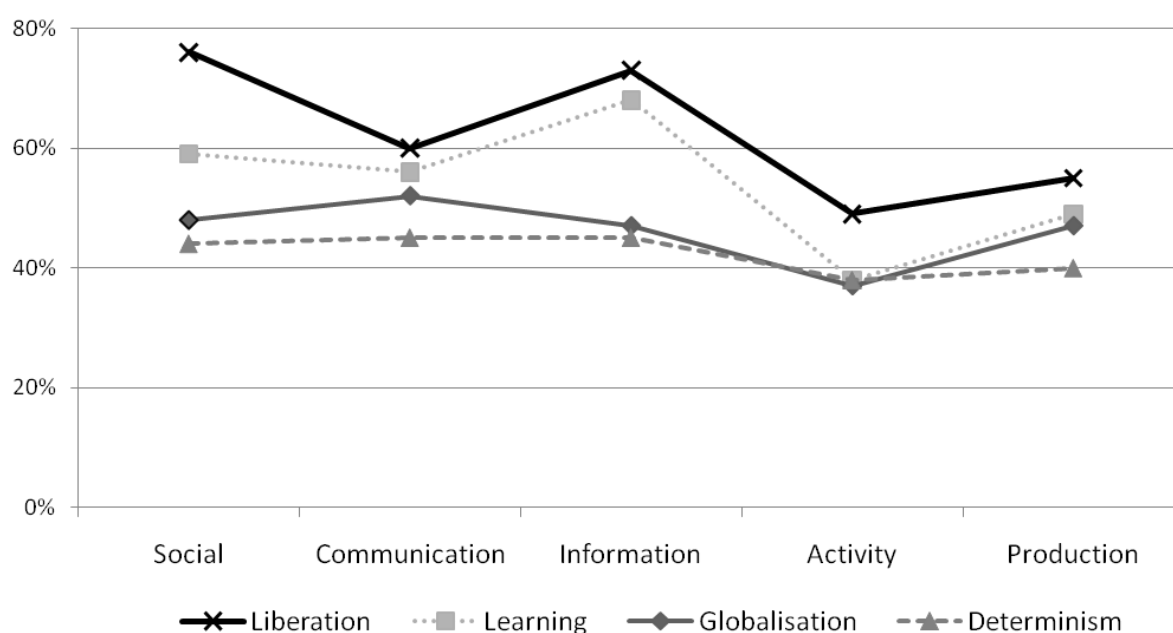
One of the pertinent aspects of the Discourse Groups is how they relate to students' use of ICTs. I have concentrated on the factors that appear to influence students' Discourses of technology but now I focus on how students' Discourses might in turn have some bearing on their ICT behaviors, namely their frequency and type of use. In the survey students were asked 26 questions about their frequency of use of ICTs across 5 categories namely; use for social, communicative, information seeking, activity or production purposes. The frequency of use was then calculated for the questions in each category for the overall sample and an new index created for those

students who had above average or below average use compared to the overall survey sample of 3533 students.

Here I focus on the four most frequent Discourse groups, as the Productive and Disembodied Discourse groups are too small in frequency to notice meaningful differences.

This particular visual representation (Figure 5-22) displays above-average frequency of use in terms of the four most dominant Discourse groups⁹⁹. The absolute figures are irrelevant; rather it shows the relative dominance of various categories of ICT use amongst students in the four dominant Discourse groups.

Figure 5-22: Percentage of students within the four dominant Discourse groups with above-average use of ICTs for five types of activities



⁹⁹ It is necessary to note that the calculation of the average was based on the larger survey sample of 3533 students and therefore the Discourse subgroup of 840 may contain students with a higher or lower average use compared to the overall sample. For example within the Activity category 40% of the overall Discourse Subgroup had an above average use.

Students who exhibit Discourses of Globalization and Determinism generally have a lower average use of ICTs compared to students who exhibit a Learning and Liberation Discourse. Students who exhibit a Globalization Discourse exhibit a lower than average use of ICTs for social purposes and information seeking for academic purposes. This is consistent with how students described their use of ICTs in their texts. Students who exhibit a Deterministic Discourse were vague about the ways in which they used ICTs; rather referring generically to studies or use for learning without being specific about the nature of their activities. Within the Globalization Discourse, some students did not refer to the use of any ICTs at all; whilst others referred to communication and activities centered on information seeking. Information literacy, i.e. learning to use ICTs featured strongly here but is not captured in this categorization of use.

Students who exhibit a Liberation Discourse exhibited the highest average use of ICTs. This is notably higher for social use compared to the other Discourse groups. The main component of students' use within this Discourse was the Internet. This data suggests that their use of the Internet is both social and academic. Students within the Learning Discourse group have lower social use compared to the Liberation Discourse group, but similarly high use of ICTs for communication and information. This is consistent with their textual description of the activities undertaken; as they refer quite specifically to learning activities, such as doing assignments and essays, and using the Internet to find course information, lecture notes etc. However, overall, there is less of a difference in the use of ICTs to undertake activities or produce materials for academic purposes compared to communicating or seeking information for academic purposes.

5.6 SUMMARY

In this chapter I have demonstrate the existence of various themes around ICTs using illustrative examples of students texts to unpack the context, Conversations and social practices that surround them. I then delve deeper into these themes by examining key concepts which underpin the discourse and start to build the case for the themes as Big D Discourses which have taken on socially meaningful identities. In doing so I examine students representation of agency and modality and note that for the most part these are similar across the Discourses, However in examining the

Discourses across the entire corpus of text I note that some students have multiple (and sometimes) contradictory discourses and that the Discourses and that there were some interesting and subtle relationships between students social backgrounds (ie particular demographic characteristics) and their Discourse. I also note that there are relationships between their Discourses and how students use ICTS.

6 DISCUSSION

6.1 INTRODUCTION

I have structured this chapter according to the research questions posed at the start of the study. This provides a systematic yet discursive way of contextualizing the findings and linking the data back to the area of inquiry.

At the start of this dissertation, I posed the question **"How do Discourses shape students' use of technology in higher education in South Africa and how does their use of technology shape South African students?"** Embedded in this were concepts of Discourses, students, use, the shaping of use and higher education. The findings will be examined in terms of each of these key concepts.

6.2 DISCOURSES

To begin with, in trying to better understand the Discourses that have emerged from this study, I focus on three questions.

The first question is **"What are the different social meanings students associate with the use of technology for teaching and learning in higher education?"**

At the start of this research project, my main motivation was to try and understand what ICTs meant to students. I had been working largely with quantitative data and previous research had shown that students were overwhelmingly positive about ICTs and that this attitude was enabling in their use (Czerniewicz *et al.* 2009). However, my personal experience when undertaking the data collection for the "Access and Use" study was that students did feel differently about using ICTs at university. This was initially borne out purely by observation when administering the survey. Having prearranged the data collection process with the lecturer, I would come in 20 minutes before the end of the lecture and ask students to spend the remaining time completing the survey. Some students would immediately ask if it was compulsory and when I said no it was voluntary they would leave, obviously enthused by the opportunity to finish early. Some would fill in the tick boxes whilst others would still be taking the time to write their opinions and issues down ten minutes after the lecture

had finished. Clearly, students had different investments in the subject of ICTs at university.

When I talked to students, their answers would echo the quantitative data – ICTs were great and were going to help them at university. So I realized that I had to find a way of getting to people's underlying conceptions about technology in a way that did not involve asking them directly.

The students' positive attitudes echoed the dominant view of ICT use of their surrounding context. As outlined in detail in Chapter 2, the South African government had a large focus on ICTs and their role in education, development and life. This was especially dominant from about 2001 (when President Mbeki set up the Presidential Advisory Council on Information Society and Development in his State of the Nation address) through South Africa's involvement in WSIS up to about 2007, when the National Information Society and Development (ISAD) Plan was approved by Cabinet.

The white paper on ICTs in education, which was adopted in 2004, espoused the government's high hopes for ICTs in terms of education through suggesting it could *"create access to learning opportunities [and] improve the quality of learning and teaching and deliver lifelong learning"* as well as *"accommodate differences in learning styles and remove barriers to learning by providing expanded opportunities and individualised learning experiences"* (Department of Education 2003, np). In terms of higher education, the South African National Plan for Higher Education (Department of Education 2001, S1.1) argues that the appropriate use of new media can support curriculum transformation and improve educational quality. Whilst the effect of this policy is unlikely to have filtered down directly to the students in this study, they would have been aware of the significance the government placed on ICTs, especially through the establishment of schools programs like Gauteng Online and the Khanya project.

In terms of the institutional context, by 2004 certainly universities in the Western Cape were starting to establish structures and facilities to support and encourage e-learning (Czerniewicz and Brown 2009a). However, institutions differed in the degree to which e-learning was a centrally-driven strategic initiative and in 2007, only a few

had standalone formal policies with many, including institutions from which the students in this study were drawn, having none (Brown *et al.* 2008).

It is into this setting, where ICTs are accepted as a necessary and given "good", that students find themselves stepping when they enter university. It is therefore not surprising that students are so positive about ICTs and their role in education. How can they not be? At surface level, all the four dominant Discourses identified in the findings are predominantly positive. None question the value of ICTs.

Students who exhibit a Globalization Discourse are positive about the global opportunities ICT enable; those with a Learning Discourse are positive about the returns of ICTs for learning; those with a Liberation Discourse are positive about the opportunities access to information offers; those with a Deterministic Discourse are positive about the benefits of having ICT literacy; and those with a Productivity Discourse are positive about the efficiencies ICTs offer them in life.

So at a surface level, the research question can be answered by saying: "Yes, students are positive about ICTs and there are a range of different meanings that dominate students' Discourses that include global opportunity, learning benefits, access to information, value of ICTs literacy, and greater personal efficiency". The only Discourse group with a negative connotation overall is the Disembodied Discourse; and this only represents 2% of the overall sample.

Yet, if one starts to excavate beneath the surface, cracks begin to emerge in the nuances of some of the Discourses. However, before I start to peel away the layers, let us first look at how these Discourses are similar or different to other Discourses evident in the literature.

The second question is: **"How are these social meanings different from other development and education contexts?"**

In Chapter 3, I described some of the Discourses, discursive types or Conversations that have been identified in development and education literature.

The Discourses of Globalization, Determinism and Productivity are neatly aligned with similar concepts in the literature. The Discourse of Globalization is perhaps the most common across a range of contexts. Referred to as a legitimacy discursive type

by Thompson and Roode (Roode *et al.* 2004; Thompson 2004), imperialism by Budd (Budd 2005), and the digital divide by Ravjee (Ravjee 2007); it refers to poverty, social divisions, the "information poor" and the digital divide. Globalization as a discourse has its origins in the "aftermath of the economic troubles of the 1970's" (Fairclough 2006) with some of its core elements being liberalization and global integration of markets that benefits everyone and spreads democracy (Fairclough 2006). The Globalization Discourse amongst the university students in this study reflects many aspects of the literature. However, it seems as if the "two sides of the coin" which students expressed within this Discourse most closely echo Ravjee's optimistic and pessimistic sides to the digital divide which she separates (Ravjee 2007). The students also echo Budd's concern that those who don't have the tools somehow lose access to something important (Budd 2005).

The Deterministic Discourse also sits very neatly within the literature containing notions of optimism, privileging technology or pushing for technology. It is most often referred to as determinism although Thompson calls it optimism. Within this Deterministic Discourse, the students are acutely aware of the question Budd raises of "*whether we see people who are competent computer users as smarter*" (Budd 2005). One of the distinctive aspects of this Deterministic Discourse in this study is the students' focus on their ability to use ICTs as a requirement with non-technical use being regarded as less valid, thereby putting students under increased pressure to succeed in the technological world. This also links with Thompson's discursive type of Technocracy in that these students are aware that there are other students who show technological expertise but they are not one of them (Thompson 2004). Selwyn (2006) comments that governments' drive for global and economic competitiveness creates a strong view of ICTs as necessary for the labor market. This inevitably leads to a view of ICTs as important for individual graduate employability; and therefore creates a focus on learning about computer technology and not through computer technology, the latter process being the one through which critical digital literacies are formed.

The Productivity Discourse relates most closely to Thompson's pragmatic discursive type (Thompson 2004), Wilson's information revolution (Wilson 2003) and Budd's Discourses of speed (Budd 2005). Within this literature are notions of "*on the ground results*" (Thompson 2004), opportunities to leapfrog (Wilson 2003), and getting "things" done better, quicker faster (Budd 2005). It is focused on results, and views

technology as a producer. As Budd notes, Discourses of productivity suggest that computers will make life easier for students and teachers, and will somehow reduce workload. She comments that the majority ignore the additional new stresses and problems that technology creates (Budd 2005). This is very similar with the students' Productivity Discourse, as students talk about how much time it saves them to use a computer to do a task and then admit that they wait in lines for long periods just to use the computer.

The Discourses I identified as Liberation and Learning amongst students are reflected in different ways in the literature. The Liberation Discourse (which is not explicitly named as such by Budd) is apparent in Budd's freedom of information Discourse group, where she notes that notions of liberation through availability of free information emerge (Budd 2005). Wilson, in describing existing divides, makes reference to the conflagration of the terminology of information and knowledge (Wilson 2003), which is a strong theme within the student Liberation Discourse and forms one of the drivers of Leu *et al.* which impact on students; namely the ability to locate and critically evaluate useful information (Leu *et al.* 2004). This does imply expertise that students within the Discourse believe they have or want to demonstrate and, as such, has synergies with Thompson's Discursive type of technocratic expertise (Thompson 2004). However, the students' Liberation Discourse differs from the literature in that it is more focused on the clear association of information equating to knowledge and therefore advantage. In that they seem to lack the critical literacy abilities that Leu *et al.* (Leu *et al.* 2004) highlight as so important.

The Learning Discourse as it is represented by the students in this study is not explicit elsewhere in the literature. However, other researchers raise aspects of this in different ways. For example both Ravjee (2007) and Clegg (2003) note how Globalization Discourse is positioning ICTs as a central tool for change within education. Ravjee notes a market commodification of ICTs for education with the rise of virtual universities (Ravjee 2007) and online courses. Leu *et al.* note that the effective use of information to solve problems is a major driver that impacts on students (Leu *et al.* 2004). This emphasis on the role of ICTs in education provides a backdrop in which the Learning Discourse operates. The students are just more precise about how they express this perceived benefit of ICTs for learning. This echoes Thompson's Corporatism discursive type where ICTs are positioned as

economically beneficial (Thompson 2004); although in this context, they are represented as educational benefits and not economic ones. Interestingly, whilst the majority of students within this Discourse Group see ICTs as both a means to an end (i.e. better marks and therefore a better chance of employability) and improving the process of learning (making it more efficient or easier), some students regard ICTs as playing a role in the way they learn. However, there is evidence that the use of ICTs is being merely strategically tied to learning amongst students who already have the skills and knowledge (so do not need to use ICTs to make them more employable in that way) and, after years in what Selwyn refers to as "*ICT saturated environments*", use them only for purposes required (Selwyn 2006).

Finally, Disembodied Discourses, the second most dominant Discourse in Budd's research (Budd 2005), is very infrequent amongst the group of students in this study. It is represented slightly differently and focused not only on the lack of personal contact but also the lack of contact with other tangible objects, such as books and pen and paper. What this shows is that the issue of technology replacing face-to-face interactions is not a huge concern for students and they do not feel that ICTs are a threat to their embodied human interactions.

The discursive type of neutrality identified by Thompson (Thompson 2004) and evident in other studies (Roode *et al.* 2004; Tu and Kvasny 2006) is not present within this student group. ICTs are clearly having such an effect on students that they do not see ICTs as a neutral or benign force.

The third question is: **"What representations of the world are constructed what are left out?"**

So now that I have highlighted what students are saying about ICTs, what are they are not saying? In excavating beneath the surface and trying to uncover hidden meanings, I have found Foucault's concept of the archive useful which he developed in his book "*The archaeology of knowledge*" (Foucault 1969). The archive is a set of "discursive mechanisms" which limit what can be said, in what form and what is counted as worth knowing or remembering (Mills 2004, p57).

Using this concept, we can see how hard it is for students to say anything negative about computers and technology. Their overwhelmingly-positive attitudes are not necessarily a true reflection of what they think. It is just that they are operating in a

larger context where few are negative about ICTs, and negativity with regards to ICTs is perceived to be associated with ignorance which is associated with backwardness.

Students who exhibit a Deterministic Discourse do not feel they have an option to "want to" or "not want to" use ICTs – it is an inevitability. Yet, without saying they do not like using ICTs or do not want to use them, students' use of words convey that all is not easy. For example students who exhibit a Deterministic Discourse are quite open about the difficulties they face. Whilst they do not describe the technology negatively, they do describe their own difficulties. They use words like confusing, struggling and frustrating to talk about how their own lack of knowledge and ability in using ICTs makes them slower and has personal costs, both economically and in terms of direct benefits in that they cannot get the information they want. Those who claim to have acquired this knowledge seem keenly aware of the advantage it offers them and are aware that things are not as easy for all students. Students within this Discourse do not blame the technology for not achieving its promises. They blame themselves and operate from an "I'm not good enough" foundational identity.

Interestingly, students who exhibit a Liberation Discourse hardly ever refer to their backgrounds. They do not say they came from poor schools or disadvantaged backgrounds. There is some insinuation in this regard; especially where access needs to be negotiated or shared, and one realizes they are making choices around their ICT use and it is not a given that they can use ICTs when they need to. However, this omission is in stark contrast to students within the Globalization Discourse who refer heavily to their background contexts as inhibitors in terms of their access and opportunity to use ICTs. Another situation where the "I'm not good enough" attitude emerges.

Some students are a bit more vocal about ICT problems with an "It's not good enough" (i.e. outward looking) attitude as their foundation. Students from Liberation and Productivity Discourses tend to position the provision of ICTs as not adequate to meet their and other students' needs and, whilst they do not want to be overtly critical; they have clearly externalized the problem.

Students who exhibit a Learning Discourse are also less vocal about problems with ICTs. Perhaps because they feel they are meant to see or value ICTs as being good

for learning, it is hard to say; but it's a waste of time or causing them problems. So whilst students hint at hardships, they represent this more as an inconvenience or a challenge requiring negotiation or patience as opposed to a problem or hindrance. To some extent, they feel that what they have is a privilege and privileges should not be criticized.

Social use is seldom mentioned amongst students in their texts. This could be because they did not think it was an appropriate forum to talk about their personal uses. However, comparison of the Discourse groups with survey data also indicated low social use. Whether it is because it is not important or because students want to be perceived as taking ICTs seriously and regard social use as frivolous is uncertain. Certainly, both aspects seem to emerge in the data. However, more evident is a backlash against social uses which some students deem inappropriate (e.g. pornography and games) as this occupies resources and takes away their opportunity for what they perceive as a more legitimate purpose, i.e. their studies.

6.3 UNIVERSITY STUDENTS

How are these Discourses influenced by students' access to ICTs and social demographics?

Early on in this dissertation in Chapter 3, I presented my argument for not isolating students in preconceived groups as lines of enquiry. However, given that digital exclusion often mirrors social exclusion, it is not surprising that some of the Discourses groups are dominated by students with certain demographic characteristics.

My findings show that students from low socio-economic groups who spoke a South African language of African origin had stronger Discourses of Globalization and Determinism, representing greater digital exclusion than their counterparts from higher socio-economic groups who spoke South Africa's dominant language of apartheid, Afrikaans, and the globally-dominant language of English. Language is a complex issue in the South African context (Wasserman 2002) as it can be a proxy for "race" and like elsewhere is strongly related to identity (Norton 2000).

Older students also had more dominant Discourses of greater digital exclusion than their younger counterparts. Whilst other research in the South African context (Brown

and Czerniewicz 2010) (Thinyane 2010) has shown that the relationship between ICT use and age is not generational and related to more closely to level of experience, this finding does suggest that older students do feel more alienated from the technology culture than younger students.

Literacy and access proved enabling for students and where these levels were high, students' feelings of digital inclusion was reflected in their Discourse. This is not surprising as other studies have noted the relationship between social status, home computer access and attitudes towards using ICT's (Selwyn 1998). (Kvasny and Trauth 2002; Nakhaie and Pike 1998).

However, gender differences amongst Discourses were unexpected. There wasn't a pattern of difference in terms of alignments with inclusionary and exclusionary Discourses but there was a difference in terms of where male and female students saw the value of ICTs lying. Female students had a stronger Learning Discourse whilst male students had a stronger Liberation Discourse. Given the complexity of and contradictions that exist in terms of understanding the relationship between gender and ICTs (Gunn 2003; Selwyn 2007; Sorensen, Gansmo and Lagesen 2008) this observation is worth exploring further.

What is the role of these Discourses in maintaining the students' social worlds or furthering interest of their social group?

Students from a Globalization Discourse are keenly aware of how their personal circumstances (their background and history) influence their opportunities. Their disadvantage in life is the reason they have a lack of opportunities. Poverty denies them opportunity. Students who exhibit a Deterministic Discourse are not as explicit about the reason for their lack of ability but what is interesting is that they almost see ability as a social good. It is a currency, a ticket which they do not have. However, a more positive and optimistic viewpoint is also reflected in relation to Globalization. This relates to the opportunities that technology (specifically the Internet) offers for students to expand their world and give them access to resources (whether this be people or information).

Most students who exhibit a Learning Discourse have high degrees of personal agency. They see ICTs positively and are concerned about other students who appear to be missing out (whom they position as outsiders and not part of their

group). However, some students who exhibit a Learning Discourse may also feel they are victims of circumstance. The way these students who exhibit a Learning Discourse talk about social goods is less direct. For example they talk about wasting time looking for relevant materials on the Internet or content not being in local languages, rather than ICTs disadvantaging some groups in South Africa because they find it hard to locate appropriate content. However, fundamentally, they are highlighting the issue of relevancy and language in the English-dominated context of the Internet. They focus on the opportunities technology offers and are prepared to negotiate access with other students and/or family members in order to achieve their goals.

Liberation Discourse students do not necessarily have better access than other students. Many still talk about being able to achieve their goals even without good access. They do not say it is easy but they do not let lack of access constrain their agenda for knowledge.

Students who exhibit a Globalization Discourse do have a sense of solidarity with others in their predicament and see themselves as part of a group of disadvantaged. Some look back at where they came from and desire opportunities for learners at schools in rural areas because they feel they themselves are disadvantaged because their first exposure to ICTs was at university. They desire a greater exposure of ICTs across a wider range of people in South Africa or even a decrease in costs so ICTs are more accessible to more people. Even at the university level, they recommend changes in terms of faculty approaches to ensure equity of access. Their interest is in opening up opportunity and access to marginalized social groups. Yet only a few go beyond these demands for change and show evidence of agency themselves. When examining the transformative power of the texts, the two contrasts are those who see themselves denied opportunity and those who see ICTs as an upliftment. Interestingly, there is also a strong sense of competition to better themselves beyond and above others. There is a sense of themselves as individuals against the world.

Those students who exhibit a Deterministic Discourse who feel they have managed to acquire that ticket into the world of ICTs are strongly in solidarity with those that have not got there. They are aware of the advantage that they now have and those who do not, referring generally to students as a group and to staff as a group. Very few talk specifically about a social network.

Students who exhibit a Liberation Discourse are generally individually focused and do not seem very concerned about other students at all.

Do these social meanings constitute a common Discourse identity amongst students?

In Section 2 of the Findings Chapter, I make the case for consideration of the six themes as group identities, drawing on the common characteristics of the Discourses that show students are not just talking about technology but also about how technology makes them feel, what values it holds for them and what role they see for technology in their lives. Like Norton, I argue that each Discourse is not just a collection of ideas but a representation of an identity, in that it shows how students understand their relationship to the world, how that relationship is constructed across time and space and how they understand the possibilities for the future (Norton 2000).

Both Norton and Gee position identity in relation to a desire for recognition and affiliation, with Gee observing that "*social practices set up roles or positions within which people become 'insiders', 'outsiders' or 'marginal' with respect to the social groups whose practices these are*" (Gee 2004, p32). Norton points out that desire is inseparable from material resources in society, where those with access to those resources are accorded access to power and privilege (Norton 2000, p42).

As per the critical approach, I am primarily interested in the technological identities of the students who see themselves as outsiders or marginalized. The students within a Globalization Discourse and Deterministic Discourse are most alienated, but the way they deal with or approach this alienation occurs in different ways. In conceptualizing my research for the "Mobility language literacy" conference recently held in Cape Town in January 2011, I was inspired towards a metaphor with which to capture these nuanced differences in approaches. Amongst the group of students who perceived themselves as "outsiders" to the digital world, I determined three types of approaches:

The Converted – students who don the new cloak of technology and hope everyone sees them as an indigenous person whilst figuring it all out as they go along.

The Alien – students hovering on the outskirts, feeling excluded; crossing over for short periods of time and then heading back home to the familiar.

The Escapee – students desperate to get away from the confinements of where they have been; seeking better opportunities. These have a conscious acknowledgement of being an outsider but a desire to change and become assimilated and therefore seen as indigenous.

Focusing on this group of marginalized students (migrants to the digital world), we see that students with different Discourse identities approach this migration differently.

The external Conversations of Globalization and the information society have a role in both facilitating and constraining their participation and future opportunities.

As Foucault notes, membership of an identity group does not determine one's behavior (Foucault 1994b) but there is an ease with which people readily accept the social groupings imposed on them. Many students do not exercise individual agency and just go with the flow but still feel outsiders, marginalized, excluded, lost and powerless.

The person who feels like an alien needs someone to draw them in. With the little sense of agency they have, given their "I'm not good enough" sense of the digital world, they are unlikely to take up opportunities that are presented. It is here the Conversations around Globalization and the information society have a negative impact on individuals.

However, for some the information society has tantalized them with a sense of possibility. The escapee is an outsider but keen to be an insider and to make the most of opportunities; making a conscious decision to leave the old behind and to be proactive in acquiring the new. This is perhaps one's ideal type of student in that they are eager to learn, yet aware of their limitations.

One of the less obvious identity strategies to recognize is the converted, as they are trying to hide amongst the population. They are in disguise (and perhaps even in denial) which means they will not admit to problems, take up voluntary opportunities for migrants, and they hang with the gang; hoping their disguise will not be

discovered. It is likely that these students will report high efficacy and confidence because that is what they feel but we need to be conscious that this does not necessarily equate to their actual knowledge and ability.

6.4 USE OF TECHNOLOGY

How do Discourses empower or disempower students in terms of their use of technology?

Foucault views power as something exercised over those who are in a position to choose, although power influences what those choices will be. He separates power and domination, noting that power is a "*strategic game between liberties*". That is, people can engage in the exercise of power on their own account through an element of choice. Foucault's view on power has been utilized by Norton, who sees power as created with others rather than being imposed on or exercised over others (Norton 1997).

This "theory of power" explains some of the contradictions apparent within these Discourses. What makes some students with no access to ICTs and little knowledge and experience in terms of using technology accept their disempowered situation, whilst others reject it in search of their won solutions?

Having access and being seen to be ICT literate are big status symbols, and students from the Globalization and Deterministic Discourses perceive this opportunity and use of ICTs to give them higher status and more power.

Interestingly, there is a contradiction here as students within the Globalization Discourse are both empowered and disempowered. Those with an information society theme seem to have a greater sense of agency and drive to achieve their goals, fuelled by the rhetoric of the information society as being something that provides opportunities for all. Whilst these external Conversations might be merely a dream, they in a sense give these students the impetus to give it a try. Students do talk in terms of upliftment but at personal cost. They feel they are operating in an environment with limited options and choices, so their sense of empowerment is limited.

In contrast, the students who exhibit a digital-divide theme feel as if they are already a product of their backgrounds and draw on external Conversation such as economic disadvantage, racism and elitism to explain their standing in life. These past disadvantages continue to be echoed in the present with students continuing to talk about how they are disadvantaged presently in terms of ICT access.

Students who exhibit a Deterministic Discourse also exhibit disempowerment. They feel personally inadequate, want to learn, are waiting for help, waiting to be taught and feel that this responsibility lies with the lecturers or the university.

Students who exhibit a Learning Discourse feel it empowers them to learn on their own terms, to advance themselves and open up new possibilities and opportunities. There is a sense that ability can transform and make things possible but for most that transformation has not yet occurred.

What is interesting about students with the Liberation Discourse view of power is not that they have power but that information is power. They therefore strive to get access to information as it leads to knowledge which leads to power. This is the only Discourse that ascribes power to technology and sees the person as just needing to tap into it.

This response by students is very similar to the responses outlined by Kvasny and Trauth in examining how under-represented groups coped with IT-related problems and what their responses were to the existing power structure. The conforming power response is similar to the first group of students described above; whose Discourses of the information society encouraged them to embrace technology but within its existing structures and processes, i.e. they did not challenge it in any way. The second group of students are similar to Kvasny and Trauth's conceding to power structures response, as they are involuntarily excluded from IT practices (Kvasny and Trauth 2002). Kvasny and Trauth's final group are those who challenge power structure through "*commandeering IT to chart ones own usage and career course*" (Kvasny 2002, p276). Students who exhibit a Learning Discourse do have a sense that it is possible to use technology to chart their own course but for the majority this is more a sense than a reality. Students who exhibit a Liberation Discourse seem to think that what they are doing is using technology to gain power and thus challenge the system so to speak. However, what is really occurring is attribution of power to

the system, i.e. to technology and not use of technology to garner power for the student.

6.5 SHAPING

Who/what is constructing/sustaining this Discourse at a macro level?

In Chapter 3, I establish that context is crucial and I include a range of circumstances such as students' physical setting, the people present, the social relationship of people involved, and cultural and historical factors. The view between language and context in most contemporary Discourse analyses is usually reflexive which means that the utterance (what students are writing) influences what they take to be the context and the context influences what they write. (Gee 2005).

What is evident in the texts is that students are recontextualizing external Conversations within their own Discourses. Earlier I highlight how students are already adopting the external Conversation of notion of ICTs as a good and positive experience in the manner in which they talk about technology. However, there are a number of other areas where this recontextualization is occurring.

Whilst it is unlikely that students are directly aware of government rhetoric, the ideas contained in these speeches, documents and policies do permeate society. The texts show that students who exhibit a Globalization Discourse are recontextualizing concepts of the digital divide as espoused by the South African government. The ideas contained in government statements such as "*most of the peoples of the world, especially from the developing countries, are confronted by the challenge of exclusion in the context of the global economy, in whose development modern information and communications technologies (ICTs) play a vital role*" (Mbeki 2005) and the education system as "*severely stratified and dependent of personal wealth*" (Department of Education and Department of Communication 2001) are recontextualized by students as ICTs not being accessible for students who come from disadvantaged, especially poor, backgrounds.

Students within the Globalization Discourse are also recontextualizing concepts of global opportunity evidenced in various government and national policy documents and reports, for example: "*ICT education, training, learning and competency are essential for the twenty first century*" (Department of Trade and Industry 2000, np);

ICT can *"create equal opportunity, promote social mobility and the well being of larger social constituencies"* (Council on Higher Education 2004, p17); *"learners will be equipped for full participation in the knowledge society"* (Department of Education 2003, point 2.5) and *"At the centre of these changes is the notion that in the 21st century, knowledge and the processing of information will be the key driving forces for wealth creation and thus social and economic development"* (Department of Education 2001, p4).

Notions of ICT improving chances of employability are also being repurposed in students' texts, with ideas such as ICTs being necessary *"in a rapidly changing society, [for] the development of professional and knowledge workers with globally equivalent skills"* (Department of Education 2001, np). However, the counter belief is also being recontextualized within the Deterministic Discourses as many believe if they do not have knowledge and ability about ICTs their chances of succeeding in life are less. Government rhetoric about the opposite side of this issue is equally strong in statements such as *"Digital literacy is seen as a 'life skill' in the same way as literacy and numeracy"* (Department of Education 2003, section 2.11) and *"We must continue the fight for liberation against poverty, against underdevelopment, against marginalisation"* and *"... information and communication technology"* (Department of Education 1999, np).

Students who exhibit a Productivity Discourse have recontextualized ideas about how ICTs have improved outputs for South Africa as a country – *"strong productivity gains of the last five years are directly attributable to the use and production of computers"* (Department of Education and Department of Communication 2001, p11) – in terms of the potential benefits for their own lives by making it more efficient. Students who exhibit a Liberation Discourse are building on the ideas of the *"knowledge driven world"* (Department of Education and Department of Communication 2001) in their view that ICTs have given them access to global information and therefore knowledge. Pejout (2004) notes how in government rhetorical ideas of knowledge and information are presented, for example the *"explosive growth in knowledge"*, *"knowledge easier to obtain"* and *"information now rains down on students"* (Pejout 2004).

The National Department of Education has a strong opinion of how ICTs can help education which also permeates the Learning Discourse of students. Notions of

advancement "*ICT can advance cognitive skills such as comprehension, reasoning, problem-solving and creative thinking*" (Department of Education 2003, section 2.5); expanded learning "*advances in ICT have dramatically changed the learning and teaching process, and have expanded new learning opportunities and access to educational resources beyond those traditionally available*" (Department of Education 2003, Foreword); and improved achievements "*investments in ICT yield positive results for learners and teachers. Studies have demonstrated improved learner achievement*" (Department of Education 2003, section 2.19) are all recontextualized by students within the Learning Discourse to mean that ICTs will help them to get better marks and make their learning easier and even better.

What possibilities/opportunities are created or limited for students by their Discourses?

This research confirms that the majority of students regard ICTs as necessary, important and valuable to life. However, despite this positive view of ICTs, exactly how students see them as contributing to their lives varies. For some, they are crucial to their studies specifically; and for others they are crucial to their studies in the more general sense of ICTs enabling them to remain up to date and informed. For others it is not that ICTs are not seen as an important component of life but rather that the students perceive themselves as not being able to participate in the opportunities technology could offer them. Because of their life circumstances and lack of personal ability, they feel ICTs are either something that is just not for "their type of people" or something that is not within their grasp.

Whilst there is very little discernable difference in the frequency of use of ICTs across the Discourses, students from different Discourses engage with ICTs in different ways. For some, it is just a generic part of studying, for typing assignments and perhaps even for finding information; for others it involves very specific learning activities and they are very clear about the exact purpose of their ICT use. There also appears to be a very clear distinction between students who describe uses of ICTs as part of their social and recreational lives and those who do not.

6.6 HIGHER EDUCATION**What implications do these Discourses have for higher education policy and students practices?**

Selwyn notes that students' lived experiences are a curiously neglected element of the educational technology equation and says there is a need to understand the act of being a student in social, economic, political as well as educational terms (Selwyn 2006).

In Goode's examination of particular technological identities and the impacts these have on the academic and social life of college students (Goode 2010), she concludes that the type of technology identity a student holds creates both academic opportunity and obstacles for them.

This holds true in this study as well. Critical perspectives on students' experiences are important as the various Discourse groups are all co-located within the university system. Teaching, technical staff and other students need to understand how students construct their ICT identities and position themselves in order to understand the feelings of powerlessness and isolation amongst some groups, so that we can better support them.

In teaching and learning terms, it is important to examine the implications of inclusivity for both policy and practice. In terms of educational research and understanding, these groupings can assist in identifying the groups who are marginalized and assist in addressing educational inequalities.

As a critical theorist, I think it is essential to question the ideas of progress that are associated with technological development within South Africa. I find myself caught between my role as a critical theorist and educationalist. There is a personal contradiction between remaining "objective" and focusing on ICT adoption and use within the broader social and economic context, and my role as an educationalist, examining and promoting the innovativeness of technological practices within higher education. Aware that technology is essential for me personally and that it enables opportunities others do not have and we cannot afford to avoid it but rather have to take a step back (as Selwyn calls for) and examine the issues.

We need to acknowledge that despite huge efforts to position ICTs centrally within university education, the reality is that academic use is very limited in terms of teaching and learning.

Viewing identities as a product of participation in communities (i.e. as contextually specific) can strengthen our investigation of how computing experiences influence individuals' relationships with technology (Norton 2000). However, identity construction is more than the sum of an individual's social experiences. There is an inherent tension between group affiliation and individual agency.

It is not just about providing access and training. Some of these students feel that they started the race too far behind and the catch up is too enormous. Others feel they have to use ICTs to improve their chances of success in their courses or even in terms of future employability.

The information society Discourse creates possibilities amongst students. It gives them a sense that if they can unlock the door then everything is possible. However, its idealistic approach means they lack the ability to critically evaluate ICT's, fit for purpose, relevance of use etc. How do these students feel when they are not able to secure employment because their skills are not recognized as being good enough? Still, despite my skepticism of this prevailing Discourse, it does seem to provide students with motivation and agency.

On the other hand, the digital divide Discourse is constraining. It seems to give students an excuse/reason for their lack of opportunity. It is not that they do not want to learn. It is that they accept their lot in life without questioning whether they can make a difference here and now. The Discourse is one of tacit acceptance; no chance, continued suffering. It is almost as if they do not feel part of the global world and are resigned to live at the local level.

What is interesting is that many students who exhibit a Deterministic Discourse are also constrained, but they view the constraint as their ability and not their life circumstance. Ability though is clearly related to their background in many ways because they talk about how their slowness costs them more and that their lack of ability is not willful but rather because they could not learn about ICTs earlier. Their view of ICTs as an essential part of life means they have taken the plunge, are using ICTs and battling as they go along, feeling inadequate but still keeping going.

Liberation Discourse students see ICTs as offering hugely advancing possibilities. They are enabled by their Discourse.

This data confirms Selwyn's (Selwyn 2006) opinion that within education, advantages of ICTs are seen as efficiency, effectiveness, modernization and rationalization and disadvantages as immorality, dehumanization, atrophy, disenchantment and alienation and considers that neither of these qualities forms the basis for enhanced, emancipatory and enlightened higher education provision (Selwyn 2006). Even in the best case scenario of technologically-empowered, confident and capable students, we do not see the use of ICTs as an emancipatory process.

6.7 PRIMARY RESEARCH QUESTION

How do Discourses shape students' use of technology in higher education in South Africa and how does their use of technology shape South African students?

In trying to ensure that I answered my primary research question I systematically grouped my research sub questions under five key headings which addressed the core concepts contained within the sphere of my research enquiry. However on reflection I realize that this approach has overlooked two core findings in the thesis. The first is characterized by the capitalization of the term Discourse in the sentence and of course relates to my theoretical stance and the way this has both contributed to and influenced the way I have viewed and interpreted the data in my thesis. The second is contained in the preposition “and”, which was meant to indicate the dialectical relationship between how Discourses shape students' meanings (ie their beliefs, values, perceptions around technology) and how their use of technology in turn shapes their Discourses.

In terms of my theoretical stance my use of Gee's notion of Discourses has meant I have actively sought to look for and understand group identity. My endeavors in this regard were limited as I was only looking for cues contained within texts and was not able to include visual elements (such as the way people dress or other aspects of their material culture) as Gee advocates. In addition my use of critical discourse analysis did mean I was looking for hidden meanings and imbalances of power and

although I have uncovered a range of discourses my concern or focus in this discussion has been on the marginalized and under-represented.

Whilst I have noted the dialectical relationship between Discourses and technology earlier it is important to foreground that students' Discourses are not singular. In fact they can be multiple and contradictory and may even cause conflict if as Gee notes there are contradictions between students' primary and secondary Discourses. In addition students' Discourses can and do open up various possibilities and options in terms of their use of technology which in turn has the potential to transform that student's Discourse. So my view of Discourses is that they are a multifaceted, relational and transformable concept not a static, one dimensional one.

7 CONCLUSION

7.1 OVERVIEW

The aim of this thesis was to examine the complex social system of the use of ICTs for teaching and learning amongst higher education students in South Africa. The problem as outlined at the outset was the lack of research from the students' perspective on what technology really meant to them as individuals. The intention of the research was to contribute to our understanding of using technology in higher education in a developing country.

Public rhetoric that ICTs are inevitable and essential for education is reiterated by students who demonstrate positive attitudes towards ICTs. Corresponding data from the literature that ICTs are being used voluntarily legitimizes the use of technology in education as policy makers look for "proof" to show ICT's acceptance by its users.

However, the range of Discourses uncovered in this study show that students' Discourses about ICTs are complex, often multiple and contradictory. These Discourses are associated with identity but it is complex in that they occur across many groups; which means one cannot identify a female Discourse or a young person's Discourse. Views about "women not liking ICTs as much as men" (Gras-Velazquez, Joyce and Derby 2009) or "young people being technologically different to older people" (Prensky 2001b) are not valid or useful and need to be challenged .

Whilst access is a multifaceted issue, the focus in this thesis has been on students' personal access to technology, i.e. their motivation, values, purpose and beliefs. By excavating below the surface I have demonstrated that there is deep inequality at the level of personal access. In addition, the use of ICTs in education is reinforcing power, domination and interests of certain groups of students at the expense of others.

7.2 CHALLENGES

Selwyn's concern that there is a difference between "enthusiastic rhetoric" and "mundane reality" (Selwyn 2006) of ICT use in higher education is echoed in the South African context. The focus of ICT use seems to be learning about technology

and not through it. Many students do not feel that they are being equipped with the ICT skills necessary for work.

We see a positioning of ICT meanings as relating to efficiency and effectiveness versus alienation and reluctant acceptance. None of these ways of viewing ICTs is the form of enlightenment for which higher education needs to strive in order to develop our country's information society.

Students' levels of personal and technological empowerment is closely related to their Discourses, as some Discourses constrain the opportunities students can realize.

Students have very real problems and inadequacies with regards to using ICTs for their learning. Asking them if it is something they want to do is a bit like asking them whether they want their degree in English or isiXhosa. Few are going to say isiXhosa because it is not the language of power. Students come to university to equip themselves to get a good job and students want to do what is most likely to make them most employable. They perceive using ICTs as giving them power, the edge over others. It is a commodity that is tradable, i.e. ICT skills convert to greater economic potential. It is a non question.

The two contrasting examples of how students internalize and externalize responsibility for their personal agency demonstrate the complexity of this problem. For some they see the problem as one of ICTs not being good enough, blaming the technology and the institution for their lack of achievement in terms of ICTs. Others see themselves as not being good enough, blaming their lack of ability and skills for the same thing. Neither of these Discourses enables personal agency, as the problem is viewed as a barrier. Discourses influence the way students use ICTs at university and potentially the way they will continue to use them in their life beyond university so these types of barriers are important to address.

Students are right in the fact that the ICTs are necessary and valued in the world of work; so it is pointless to persuade them otherwise and would be a folly to convince them otherwise. Whilst I agree with Broekman et al. in their notion of the "*dilemma of social justice*" (Broekman et al. 2002), I do not believe we ought to give students a choice as to whether or not to engage with ICTs but ought to assist students with different strategies as to how to engage with ICTs.

We need to reconceptualize ICTs not as the answer but as part of the problem. Using ICTs is not going to miraculously address students' learning difficulties, although some of its uses do help students to produce better output, for example the ability of word processing packages to do spell checks and the Internet to provide definitions and explanations of concepts and words; but fundamentally, ICTs are not the answer to learning problems.

With so many other real needs in South Africa, one can question the importance of studying the use of ICTs for learning. However, whilst I question the power of ICTs to alleviate poverty, I do not question the power of ICTs (in the hands of people skilled, and knowledgeable who understand poverty) to make some real and useful solutions that will enhance people's lives.

If we ignore the hype that ICTs are going to change the way we teach and the way we learn (all the hype that comes with first world notions of the digital native and Web 2.0) (Batson 2009; Prensky 2001a, 2001b) and just work with our students to ensure that at the very least, we equip them to make technology work effectively at university and in their chosen careers, then we can use technology to our country's economic benefit.

There are two conflicting issues surrounding the need for ICTs in developing countries. The reconciliation of the need to develop ICT literacy and solutions within an environment where basic challenges such as poverty, basic health care, HIV/Aids, employment and security have yet to be solved (Cross and Adams 2007) with the need to build an information economy that fights against further global, social and economic marginalization. However, the key is not to learn about ICTs in isolation, but rather to learn about ICTs as tools for solving basic life challenges.

One aspect of this is competent ICT professionals (Kvasny *et al.* 2004) but another is producing graduates in the various fields that are able to use ICTs as a tool for themselves and their communities. This would enable them to work with the strengths of ICT's and resist further marginalization (Department of Education 2003, Section 1.11).

7.3 LOOKING TO THE FUTURE

Educational technology is a location of conflict and choice yet there is potential for change across many levels.

Action can be taken at government level. Government needs to stop and think about what message they are sending to teachers and learners across the country. We need a national e-learning policy for higher education; but a guiding and not dictating one. It needs to support the linkage between higher education and schools and encourage collaboration across disciplinary domains such as library science, academic development and educational technology in the development of meaningful ICT skills integrated into the curriculum and therefore disciplinary domain. The key is not mastering technological skills (although that is a practical and necessary component of information literacy), but rather mastering the ability to critically source and evaluate information so that it can be converted into disciplinary-appropriate knowledge.

Changes are needed in the education system prior to university; but given so many issues in the school system (Department of Basic Education 2009; Hlatshwayo 2008), this is easy to say and harder to do. The school system still has a huge discrepancy in terms of physical access, although this thesis was not about examining the issues in that particular sector. However, I do believe that higher education needs to establish greater linkages with schools in terms of research and practice. I do not believe we can afford the luxury as educational technologists of saying that we are focused in one sector or the other. The problem of lack of preparedness is all of our problem and we all need to take ownership of it. University Departments or Schools of Education need to educate all teachers and trainee teachers to be ICT literate so that they can in turn help their students.

At the university level, computer literacy training will not always work for the range of Discourse identities outlined in this research. Those who are responding to the migration into the world of ICTs as converted or aliens will not attend. If training is made compulsory, aliens are likely to fall behind as they do not see the purpose of what they are doing or their own potential to do it. The converted are likely to try and skip ahead because they think they are past it.

One solution might be to open up Information Literacy programs, which are in place perhaps for specific courses or groups of students, to a wider range of students. As DeJager and Nassimbeni note, librarians are increasingly moving towards assuming the responsibility for providing students with graduate skills and information skills, and faculties and educational technology departments need to capitalize on this (2005).

At a fundamental level, ICT use (for gradueness) needs to be embedded in the curriculum (Seymour and Fourie 2010) in a strategic way (Selwyn 2006), i.e. involving assessment but still in a way that gives students an element of choice according to their abilities/interests (Broekman *et al.* 2002). Training needs to happen within a context and needs to have a purpose. For example it cannot be just "how to use Microsoft Word" but rather "how to easily format your assignment". The power is with academics and tutors, for students not to be ICT whizzes but to use ICTs appropriately for their discipline, i.e. to make them contextually relevant for students.

The Health Sciences is one area where this appears to be happening (Czerniewicz and Brown 2007; Greenhalgh 2006; Ward, Gordon, Field and Lehmann 2001). I would argue that it is necessary for every graduate to not just be able to personally use ICTs as a tool themselves (and that has been shown to be problematic as we do not even know what level of personal ICT literacy and competence we are equipping our graduates with in higher education) but also as solutions for their fields.

In order to do this, each field needs to be aware of and train their students in using ICTs as a way of empowering themselves and their professional and social communities. Use of ICTs needs to be embedded in the curriculum. This is not a new suggestion, as already in 2003 the South African government defined e-literacy (for the schools sector) as *"more than developing computer literacy and the skills necessary to operate various types of information and communication technology"* (Department of Education 2003, section 2.3).

This included the ability to *"access, analyse, evaluate, integrate, present and communicate information"*, create knowledge and new information and to *"function in a knowledge society by using appropriate technology and mastering communication and collaboration skills"*.

I would offer the concern that students at schools level fall hugely short of this and that higher education does likewise by assuming that just because a student gains entrance to a university he or she comes with a pre-defined set of skills and capabilities. Certainly, students come with potential but we cannot forget that it is essential to contextualize this. As the CHE 2009 report on student throughput notes, *"first and most important empowering or disempowering factor for students' agency is their background"*. We cannot change students' backgrounds and we cannot ignore them so that leaves us with the only alternative to understand and work with them. We need therefore, to focus the curriculum on learning skills, not software; and as Klecun has suggested *"for a curriculum to have an emancipatory potential it needs to be determined by learners' experiences and their expressions of their needs, rather than be focused on acquiring a set of skills"* (Klecun 2008, p277).

ICT literacy is not an isolated skill or need and should not be treated as such. It makes sense, given links between digital inclusion and social inclusion, that ICT literacy is tied up within other academic development issues. As boundaries between information literacy and other academic literacies become more porous, it is essential that librarians, educational technologies and language development professionals work together to develop students' digital literacy within the context of their background and their current discipline.

Collective resources have also been noted as playing an important role in empowering and disempowering students in terms of their achievement at university. Through "linking" (building connections to people in positions of power who provide access to resources) students can draw on peer-to-peer networks that cross Discourse groups and seek support and encouragement.

7.4 LIMITATIONS OF THE STUDY

It is important to take a step back at this stage and consider what the limitations of this study have been. Like many things, for every strength there is also a weakness.

Being able to draw on data from an existing study was a strength in that it enabled a deeper and additional level of analysis not possible in the original research proposal. Too often, data is collected and the full analytical possibilities are never realized. However, it is also a limitation as I had to work within the constraints of the dataset.

These constraints include the self-selective sampling strategy and the nature of the open-ended question. The survey was voluntary so a particular kind of student chose to spend his or her time participating in this research. Accordingly, it is only these "kinds" of students whose Discourses and identities I have come to understand. As such, the survey is not representative of all students in higher education; although demographically the sample was largely similar to the national population and in terms of ICT access and use, the sample provided a reasonable spread of students' experiences, spanning a range of access and use groupings.

The nature of the open-ended question was also both a strength and a limitation. Open-ended questions are often used in surveys just to give people an opportunity to raise additional issues or clarify reasons for selection of particular scale item in a survey. Sometime they are drawn on in a high level content analysis or used to provide qualitative illustration of data. However, this study has shown that open-ended questions can be valuably analyzed using a Critical Discourse Approach and that it is possible to draw on this type of data not only to look at what people say but how they say it. However, as a data source they are limited in terms of the information they can provide. The language used is informal and not constructed in full sentences which means that many textual markers often used in a CDA are missing, they are written in a limited space so the text is short and the researcher does not have the opportunity to go back and question to clarify responses as, unlike an interview, there is no dialogue between researcher and participant.

As I have mentioned throughout this thesis, context is crucial and these findings are relevant to these students' particular context in terms of space and time. So the meaning and identities in relation to ICTs are unlikely to be exactly the same in another group of students in a different space and time. Whilst this is not a shortfall but a reality, it is necessary to consider the findings in the context in which they were produced and not to try and seek direct comparisons but rather to utilize the process, outcomes and recommendations to try and better understand other groups of students' relationships to ICTs.

The particular approach I have taken to CDA in this thesis could be construed as selective as I have "borrowed" specific dimensions of two very noted critical discourse analysts namely Gee and Fairclough. Again I feel that the selection was justified in terms of the line of research inquiry and the genre of the data I was

analyzing and it offers a systematic and explicit analytical approach for future CDA analyses of large corpora of data.

7.5 FUTURE RESEARCH DIRECTIONS

These limitations and the challenges raised for the future immediately give rise to further questions that I intend to pursue in the postdoctoral phase of my research. One aspect relates to context. The data collection was conducted in 2007 before the huge rise in social software and at a time when some of the institutions in which the students were located had just merged or were only starting to explore policy and structures related to e-learning. Now at the end of 2010, all three institutions that lacked a centralized e-learning approach have embarked on more centralized strategies, and the merged institutions have had time to integrate and assimilate processes and practices. So one of the questions that emerges for me now is "How are Discourse identities similar or different in a different space and time? Are any new Discourses emerging"?

Another important test of the robustness of students' technological identities is whether students would consciously identify with any of these Discourse groups. I am also interested in expanding my understanding of the Discourse groups beyond the level of language; as Gee notes a Discourse encompasses what people think, what they do and how they represent themselves. In this study, I was limited to drawing data from texts but conducting research face-to-face interviews with students using various forms of digital ethnographies and interviews would enable me to get a more complete picture of students' technological identities.

We also need to understand the relationship between gender, home language and multiple literacies better, as these are aspects of identity that raise interesting and complex issues and were not directly addressed in this study.

The other key aspect of future research relates to the object or purpose of using technology in education. This study suggests that students' use of ICTs at university is not adequately equipping them for participation in this information society, which is an issue of national concern. Whilst it appears that students are engaging with ICTs at a practical level, i.e. through learning to use various software tools at a conceptual level, their skills are still lacking. An understanding of what role students'

technological Discourses play in relation to their acquisition of the new literacy skills, strategies and dispositions that allow them to use the Internet and other ICTs effectively for learning would assist in determining solutions to this problem.

In retrospect I can see the advantages of Teun van Dijk's preference to think in terms of Critical Discourses Studies as this would free one up from the bounds of trying to understand the "right" CDA method. This would enable me to link into other critical approaches such as critical race theory which might provide a further lens for understanding this problem in a society as diverse as South Africa. However it is worth noting that it was the ambiguity of method in CDA that led me to utilize a combination of Gee and Fairclough in the first place, as each was explicit about method in different areas. Personally I have felt that this combined approach has given me a fresh perspective on a problematic concept and that this enabled new insights. I think I have certainly come a long way towards understanding Discourses of technology but that the relationship of that to technological identity warrants further research. It is also important not to fall into the trap of seeing these categories as fixed or static and stopping here. I felt that naming the Discourses was an important aspect of acknowledging and identifying their existence. However I am cognizant that, in a different place and time, these may exist differently or not at all. Thus expanding the methodological toolkit to examine Discourses beyond text and talk and seeking new insight through a compatible yet different critical discourse lens will enable a better understanding of students' technological identity and how this influences and is in turn influenced by students' technological practices and the tools they use.

7.6 OVERVIEW OF RESEARCH OUTCOMES

By undertaking this research, I have contributed to an understanding of the:

- tensions that exist between desired use of ICTs in higher education and the relationship technology has shaping the learning environments and personal learning spaces of the students;
- students' assumptions, perceptions, attitudes and opinions towards using ICTs for teaching and learning; and
- the relationship between students' self identity and ICTs.

These findings help us to better understand the behavior of students with regard to using ICTs and therefore contribute to a better understanding of the system of ICT use in higher education.

I have used students' voices to provide arguments:

- that challenge commonly-held assumptions that use of ICTs in higher education will automatically result in information-literate students who are fully equipped to participate in the information society;
- that providing access to technology alone is sufficient for students' use of ICTs in higher education;
- that first world notions of the information society are not entirely relevant to developing countries.

I have provided recommendations about:

- how higher education institutions can better equip students for participation in the information society;
- how higher education institutions can better contribute to the development of South Africa's information society.

As higher education has a key role to play in developing South Africa's information society, a deeper understanding (one that excavates below the surface) of how and why students use ICTs contributes to knowledge about how South Africa can realize its information society goals.

7.7 CONTRIBUTION TO THE FIELD OF INFORMATION SYSTEMS

Barrett and Walsham discuss two types of contributions (Barrett and Walsham 2004); namely those that authors can make in the process of writing and researching and those that occur after publication in terms of how that research is taken up and adapted by the research community. Here I conceptualize my contribution purely in terms of my thesis.

Synthesized coherence

Research on access to and use of ICTs comes from a wide range of disciplines, such as literacy studies, government policy, IS (particularly social informatics), cultural

policy, educational research, and socio-economic research. Usually, there is little cross-referencing across these disciplines as they have specialist journals and conferences. My thesis has provided a positive cross-disciplinary overview of student issues relating to access and use of ICTs in education. I have provided a comprehensive overview of discourses across the fields of education, development studies and IS and whilst this study is located in the South African context I believe it does have international value in terms of students' first year experiences and understanding discourses of ICTs.

Progressive coherence

My PhD builds on existing work currently being undertaken collaboratively as part of the larger project with the Centre for Educational Technology. Building on this existing work has resulted in a cumulative knowledge growth. I have added additional value to the project by enabling the exploration of questions that were beyond the scope of the project and by undertaking more in-depth research of the data. Indeed my research has enabled me to view educational technology very differently to when I started.

Non coherence

I have questioned the globalization thesis that ICTs result in positive benefits for everyone and examined notions of digital divide and whether or not they exist as they are currently conceptualized amongst higher education students in the new South Africa. However I caution that the findings should be regarded as static and fixed and that just because I have uncovered hidden meanings that their existence should be taken for granted and we should see the problems as solved.

Incompleteness

The assumptions in current research mean that few people are trying to understand why students want/need to use ICT in a developing country context. I have questioned existing assumptions and shown the depth and range of technological meanings that students hold in relation to ICTs at university.

Inadequacy

When it comes to looking at the digital divide, research is largely focused on power imbalances and social asymmetries. People like to look at the haves and have-nots in terms of social demographics. Whilst this may be true, the issue is more complex and access is multilayered. I have shown that it is also related strongly to people's backgrounds and envisaged purpose which is informed by external rhetoric about ICTs and their role in society. In addition, I have framed this research from a local perspective, i.e. a researcher within a developing country context (Avgerou and Madon 2004) and, even more importantly, from the students' voices (Selwyn 2006).

Audience framing

I would like this research to be meaningful in contexts outside higher education. This means I face a challenge in making it meaningful and accessible to a wider audience of people who are managing/implementing access to ICTs in developing countries. Whilst I aim to publish academic papers from this thesis, I also aim to present key aspects of my findings at national forums of multiple stakeholders. For example, I the Africa ICT HigherEd symposium held in March 2011 in Johannesburg where I deliberately downplayed the theoretical aspects of my research in favor of focusing on findings that were relevant to higher education policy makers and practitioners in South Africa.

Concept development

One of my primary concepts in this thesis is that people should not be setting up and or providing physical access to ICTs for people in developing countries without understanding the purpose of those ICTs and peoples' need for using them. I have shown the link between students' personal attitudes and understandings of ICTs and its impact on how they use them for learning, and have raised some important issues in this regard.

Theory generation

I have moved beyond the dominant IS Habermasian critical theory approach to explore the relevance and applicability of other critical discourse approaches to the field. I have used and adapted existing theory to frame and structure my argument,

and shown how a unique combination of Gee and Fairclough can provide an alternative way of doing Critical Discourses Analysis within IS. In doing so I have addressed a number of criticisms leveled at CDA through; making obvious my methodological process and analytical constructs thus providing a pathway and process to move from the level of text to the level of social practice and drawing on a large corpus of data I have not been biased in my sample selection. In addition I hope that my approach has not sought to obfuscate CDA as an insider but rather I believe through my transparency I have made a clear the reasons, values and underlying assumption inherent in my approach.

In addition, I have used this approach to analyze more deeply a source of data often overlooked in terms of meaning, namely the open-ended question; and thus have made a new contribution to empirical approaches in critical theory.

Specific implications

I have noted some specific implications for universities, schools and South Africa's globalization agenda. My perspective is not a cynical one. I believe that once we are honest enough with ourselves to acknowledge that ICTs are not always the answer but sometimes part of the problem, this will open up new possibilities to realistically address some of the issues we face and to then seek appropriate innovative solutions.

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APPENDICES

Appendix 1: Access and use survey (2007)

Appendix 2: Submission made to the Research Ethics Committee

Appendix 3: Dataset of students' responses

APPENDIX 1: ACCESS AND USE SURVEY (2007)

A: Access to ICTs*

*We use the acronym ICTs (Information and Communication Technologies) to refer to computers, computer infrastructure (including the Internet), software, and associated technologies such as data-projectors and cell phones

Please mark with a cross (x) or tick (✓) one number for each question. Unless otherwise indicated only select ONE answer.

How do you access ICTs ON your university CAMPUS?

A1	On average how often do you come onto campus during semester? Other (please write)	<u>Never</u> ①	<u>Monthly</u> ②	<u>Fortnightly</u> ③	<u>Weekly</u> ④	<u>Daily</u> ⑤
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A2	On campus, what percentage of your academic time do you spend using computers? using the Internet specifically?	<u>None</u> ①	<u><20%</u> ②	<u>20-40%</u> ③	<u>40-60%</u> ④	<u>60-80%</u> ⑤	<u>80-100%</u> ⑥
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A3	Where do you most often go to use ICTs on campus? ① Residence ② Faculty computer lab ③ Central computer lab ④ Library ⑤ Anywhere, I have my own Laptop/ Personal Digital Assistant (PDA) or 3G phone ⑥ Other
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A4	When you use ICTs on campus, which statement best describes your use? I usually use ICTs during formal lectures or practicals booked for our class ① I usually use ICTs in my own time ② Combination of both ③
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A5	How easy/ difficult is it for you to access ICTs on campus? How easy/ difficult is it to work in the environment where you use ICTs? (eg noise, safety, privacy) Why?	<u>Very difficult</u> ①	<u>Difficult</u> ②	<u>Easy</u> ③	<u>Very easy</u> ④	<u>N/A</u> ⑤
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A6	What makes it hard for you to access ICTs on campus (eg computers, Internet, labs, software etc)?
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A7	What helps you in terms of your access to ICTs on campus (eg computers, Internet, labs, software etc)?
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How do you access ICTs OFF CAMPUS?

A8 Do you use a computer off campus?

① Yes

② No

A9 If yes, where? (Select between one and three answers)

① Work

② Where I live

③ Internet café

④ School/ college

⑤ Friend/ relative

⑥ Community centre

⑦ Public library

⑧ Residence

⑨ Other (please list)

A10 If you have a computer where you live, what type do you **mainly** use? (Select only one answer)

① Desktop

② Laptop

③ Personal Digital Assistant (PDA)

④ 3G phone

⑤ Combination (which?)

⑥ Other (please write)

A11 Can you connect to the Internet off campus?

① Yes

② No

If yes, what type of connection do you most often use? (Select only one answer)

① Dial up

② Broadband (ADSL)

③ Cell phone (GPRS, 3G, HDDPA)

④ Wireless

⑤ Satellite

⑥ Don't know

A12 Off campus, what percentage of your **academic** time do you spend

None

<20%

20-40%

40-60%

60-80%

80-100%

using computers?

①

②

③

④

⑤

⑥

using the Internet specifically?

①

②

③

④

⑤

⑥

A13

Very difficult

Difficult

Easy

Very easy

N/A

How easy/ difficult is it for you to access ICTs off campus?

①

②

③

④

⑤

How easy/ difficult is it to work in the environment where you use ICTs?
(eg noise, safety, privacy)

①

②

③

④

⑤

Why?

A14 Think about the computer that you **most often** use when off campus. How many people share use of this computer?

① Just me

② 2 people

③ 3 people

④ 4 people

⑤ More than 4 people

⑥ Not applicable

A15 If you share use of a computer, are you the primary (main) user?

① Yes

② No

③ Share equally

④ Not applicable

A16 What **makes it hard** for you to access ICTs **off campus** (eg computers, Internet, software, location etc)?

A17 What **helps** you in terms of your access to ICTs **off campus** (eg computers, Internet, software, location etc)?

What have your EXPERIENCES been using ICTs?

A18 When did you **first** start using a computer?

- ① <2 years ago ② 2-4 years ago ③ 4-6 years ago
④ 6-10 years ago ⑤ 10-15 years ago ⑥ > 15 years ago

A19 How did you **originally** learn to use a computer? *(Select between one and three answers)*

- ① Taught myself ② Learnt from family ③ Learnt from friends
④ Through school ⑤ Community course ⑥ Training course at university
⑦ Formal credit bearing course (eg semester long computer science etc) ⑧ Commercial training course (eg ICDL)
⑨ Generally as part of my courses Other *(please write)*

A20 How do you acquire **new** computer skills when you need them? *(Select between one and three answers)*

- ① Teach myself ② Ask family ③ Ask friends
④ Community course ⑤ Training course at university
⑥ Formal credit bearing course (eg semester long computer science etc) ⑦ Commercial training course (eg ICDL)
⑧ Learn as I do my courses ⑨ Other *(please write)*

A21 Is your ability to use a computer limited by a disability/ illness?

- ① Yes ② No

A22 How much of your overall **computer** time do you

spend on activities	<u>None</u>	<u><20%</u>	<u>20-40%</u>	<u>40-60%</u>	<u>60-80%</u>	<u>80-100%</u>
to help you with your academic studies?	①	②	③	④	⑤	⑥
that are personal (eg social, recreational)?	①	②	③	④	⑤	⑥
that are related to employment ?	①	②	③	④	⑤	⑥

A23 How much of your overall **cell phone** time do you

spend on activities	<u>None</u>	<u><20%</u>	<u>20-40%</u>	<u>40-60%</u>	<u>60-80%</u>	<u>80-100%</u>
to help you with your academic studies?	①	②	③	④	⑤	⑥
that are personal (eg social, recreational)?	①	②	③	④	⑤	⑥
that are related to employment ?	①	②	③	④	⑤	⑥

A24 Where do you seek help when you have a problem doing something with ICTs?

(Please rank in order of 1 = first choice, 2 = second choice etc)

- Problem solve yourself Ask friends
..... Ask family Ask institutional IT support
..... Refer to manual/ help pages Lab assistant/ tutor/ lecturer
..... Other *(please list)*

A25 From my perspective

	<u>Poor</u>	<u>Average</u>	<u>Good</u>	<u>Excellent</u>
my knowledge and skills for using ICTs generally are	①	②	③	④
my knowledge and skills for using ICTs specifically for academic work are	①	②	③	④
At my institution				
technical support for using ICTs for my academic work is	①	②	③	④
support for using ICTs in my learning is	①	②	③	④

A26 Please indicate whether you agree or disagree with the following statements	<u>Strongly disagree</u>	<u>Disagree</u>	<u>Strongly agree</u>	<u>Agree</u>	<u>Don't know</u>
I think ICTs are essential for education	①	②	③	④	⑤
My family thinks ICTs are essential for education	①	②	③	④	⑤
My friends think ICTs are essential for education	①	②	③	④	⑤
ICTs are a professional skill required for my future employment	①	②	③	④	⑤
I feel I have the knowledge/ skills required to use ICTs at university	①	②	③	④	⑤
ICTs increase existing demographic divides amongst students	①	②	③	④	⑤
I am able to access ICTs for long enough periods of time for my learning requirements	①	②	③	④	
I am able to access the Internet for long enough periods of time for my learning requirements	①	②	③	④	
In terms of my academic needs I have adequate computer access	①	②	③	④	
Internet access	①	②	③	④	

A27 How do you feel about using ICTs for teaching and learning? (Eg do you enjoy it, is it valuable, do you feel you have adequate skills or lack of knowledge, are you concerned about your level of skills/ knowledge in relation to your peers, does the support you receive meet your needs, do you have enough training?)

B: Using ICTs

How do you use ICTs socially?

B1 How often do you	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>
communicate with other students by email?	①	②	③
participate in email discussion lists / listserves?	①	②	③
participate in IM chat (eg googlechat, skype, MSN messenger, AOL etc.)?	①	②	③
communicate with other students by SMS?	①	②	③
chat with Mixit?	①	②	③
use voice over Internet protocol (VoIP) (eg skype)?	①	②	③
play a computer-based game?	①	②	③
play a web-based game?	①	②	③
use shared resources (eg documents, photos, weblinks, music files)?	①	②	③
upload resources (such as those above) onto the web?	①	②	③
publish your own content (eg on a website, wiki or blog)?	①	②	③

How do lecturers use ICTs for your courses?

B2		<u>None</u>	<u>Very few</u>	<u>About half</u>	<u>Most</u>	<u>All</u>
For how many of your courses do you use ICTs as part of teaching and learning?		①	②	③	④	⑤

B3 Do your **ICT** activities count for marks? ① Yes ② No

Please indicate 1. How often, on average, **your lecturers** use technology in your courses 2. How helpful that technology is for your learning.

B4 How often do your lecturers explain or demonstrate a concept using	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
presentation software (eg MS PowerPoint)?	①	②	③	①	②	③	④	⑤
standard office applications (eg Adobe Acrobat Reader, MS Excel)?	①	②	③	①	②	③	④	⑤
specialised software (eg GIS, concept mapping software, statistical packages)?	①	②	③	①	②	③	④	⑤
audio or video (eg recordings, films)?	①	②	③	①	②	③	④	⑤
images (eg slides)?	①	②	③	①	②	③	④	⑤

Expectations for YOUR use of ICTs at university?

B5	How often are you asked to use ICTs to:	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>
	find/use general course information online?	①	②	③
	find/use lecture notes or presentation slides?	①	②	③
	find/use examples of previous assignments?	①	②	③
	access old examination papers?	①	②	③
	search for information on the Internet?	①	②	③
	find articles and research reports in online databases?	①	②	③
	submit an assignment online	①	②	③
	communicate with lecturers and tutors by email?	①	②	③
	participate in online discussion with peers in your own time (eg discussion forum)?	①	②	③
	participate in online discussion with peers at a specific time (eg chat, IM)?	①	②	③

How do YOU use ICTs for your studies?

Please indicate 1. How often, on average, you use technology for your courses 2. How helpful that technology is for your learning.

B6 My use of ICTs for communication	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
Communicate with my lecturers by email	①	②	③	①	②	③	④	⑤
Communicate with other students using ICTs as part of my course	①	②	③	①	②	③	④	⑤
Participate in an online discussion with peers in my own time eg discussion forum	①	②	③	①	②	③	④	⑤
Participate in an online discussion with peers at a specific time (eg chat, IM)	①	②	③	①	②	③	④	⑤
Keep an online journal or blog as part of my course	①	②	③	①	②	③	④	⑤

B7 My use of ICTs for finding or sharing information	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
Search for information on the Internet as part of my course (eg Google)	①	②	③	①	②	③	④	⑤
Search for articles and research reports in online databases (eg electronic journals)	①	②	③	①	②	③	④	⑤
Search for general course information online	①	②	③	①	②	③	④	⑤
Search for lecture notes or presentation slides online	①	②	③	①	②	③	④	⑤
Search for examples of old student assignments online	①	②	③	①	②	③	④	⑤
Access old examination papers online	①	②	③	①	②	③	④	⑤
Use a course website or online learning environment (eg WebCT)	①	②	③	①	②	③	④	⑤
Share resources eg photos, weblinks, music etc as part of my course (eg Flickr, De.lic.ious)	①	②	③	①	②	③	④	⑤
Work with other students on an online document (eg. using a Wiki)	①	②	③	①	②	③	④	⑤

Please indicate your opinion on the following statements.

	<u>Never</u>	<u>Sometimes</u>	<u>Often</u>	<u>Don't know</u>
B8 I am able to find content on the Internet that is relevant to my courses	①	②	③	④
B9 I am able to find content on the Internet that is relevant to South Africa	①	②	③	④
B10 I am able to find content on the Internet that has been produced in South Africa	①	②	③	④
B11 The Internet resources I use for studying are available in the language I want	①	②	③	④
B12 The Internet resources I use for studying are available in my home language	①	②	③	④

Can you give examples of Internet sites or online content that you find most useful for your studies? *(Please list)*

.....

B13 My use of ICTs for activities

	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
Complete a computer-based quiz for self-testing	①	②	③	①	②	③	④	⑤
Complete a computer-based test for marked assessment	①	②	③	①	②	③	④	⑤
Complete a computer-based tutorial	①	②	③	①	②	③	④	⑤
Play a computer-based game as part of my course	①	②	③	①	②	③	④	⑤
Use a computer-based simulation or modelling program	①	②	③	①	②	③	④	⑤

B14 My use of ICTs for production or creation

	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
Submit a word-processed essay	①	②	③	①	②	③	④	⑤
Create a poster or presentation (eg using <i>PowerPoint</i>)	①	②	③	①	②	③	④	⑤
Develop a website or multimedia production	①	②	③	①	②	③	④	⑤
Design a prototype or plan, or construct a model using specialised software (eg CAD, GIS)	①	②	③	①	②	③	④	⑤
Create a database or spreadsheets using computer software (eg <i>Excel</i> or <i>Access</i>)	①	②	③	①	②	③	④	⑤
Develop a personal bibliography using bibliographic management software (eg <i>Endnote</i> , <i>Citation</i> , <i>Refworks</i>)	①	②	③	①	②	③	④	⑤
Develop my academic writing skills (eg referencing) using plagiarism detection software	①	②	③	①	②	③	④	⑤

Are there any other activities for which you use a ICTs for learning that we haven't mentioned? *(Please list)*

.....

B15 My use of a cell phone at university

	Frequency			Helpfulness for learning				
	<u>Hardly ever</u>	<u>Sometimes</u>	<u>Often</u>	<u>Makes it harder</u>	<u>No help</u>	<u>Some help</u>	<u>Very helpful</u>	<u>N/A</u>
Receive information from my university via my cell phone	①	②	③	①	②	③	④	⑤
Use my cell phone for something related to my studies (eg find information, get help from friends)	①	②	③	①	②	③	④	⑤

Are there any other activities for which you use a cell phone in your learning that we haven't mentioned? (*Please list*)

.....

B16 Do you think ICTs help you with your learning by improving your ability to

	<u>Yes</u>	<u>Sometimes</u>	<u>No</u>	<u>Don't know</u>	<u>Can you give examples?</u>
recall facts, basic concepts and answers?	①	②	③	④
understand concepts and ideas?	①	②	③	④
analyse information?	①	②	③	④
solve problems?	①	②	③	④
make judgments about information?	①	②	③	④

What other skills do you hope to gain by using ICTs in your courses at University? (Eg skills, attributes, abilities). (*Please list*)

.....

B17 What **don't you like** about using a ICTs for learning? (Eg things that are a waste of time, not valuable, don't help you at all).**B18** What do you find **valuable** about using a ICTs for learning? (Eg things you do that really help you, make studying easier, improve your learning).**B19** Are there any additional comments you wish to make about your access to or use of ICTs for studying?

C: Information about yourself

Please tick one box for each question or write the appropriate response in the space provided.

We are requesting some personal information from each participant to assist in analysis of our results as our previous research and the literature indicates that social background, age, gender and language may influence use of computers. We are also requesting information about the courses you are studying as we believe there are differences in the use of computers across disciplines. **This information will remain anonymous.**

C1 Your institution (*please write*)

.....
.....

C2 Your faculty (*please write*)

.....
.....

C3 Your campus (*please write*)

.....
.....

C4 Qualification for which you are studying

- ☐ ① Undergrad certificate / diploma
- ☐ ② Bachelors degree
- ☐ ③ Postgrad coursework
- ☐ ④ Postgrad thesis
- ☐ ⑤ Postgrad certificate / diploma
- ☐ ⑥ Other

C5 Age (*please write*).....

C6 Current level of study

- ☐ ① 1st year
- ☐ ② 2nd year
- ☐ ③ 3rd year
- ☐ ④ 4th year
- ☐ ⑤ 5th year
- ☐ ⑥ Other

C7 Home language (language you speak most often at home)

- ☐ ① Afrikaans
- ☐ ② English
- ☐ ③ isiNdebele
- ☐ ④ Sesotho (N)
- ☐ ⑤ Sesotho (S)
- ☐ ⑥ siSwati
- ☐ ⑦ Sepedi
- ☐ ⑧ Xitsonga
- ☐ ⑨ Setswana
- ☐ ⑩ Tshivenda
- ☐ ⑪ isiXhosa
- ☐ ⑫ isiZulu
- ☐ ⑬ Other African
- ☐ ⑭ Other international

C8 Gender

- ☐ ① Male
- ☐ ② Female

C9 Nationality

- ☐ ① South African
- ☐ ② SADC
- ☐ ③ Other African
- ☐ ④ International

C10 Occupation of the primary breadwinner / guardian in your family. (*please write*)

.....

C11 Highest education of the primary breadwinner / guardian in your family. (*please write*)

.....

C12 Are you the first person in your immediate household to go to university?

- ☐ ① Yes
- ☐ ② No

Optional

If you would like to give us your name and contact information you can enter a lucky draw to win some fabulous prizes to make your access to ICTs just that bit easier. You can also let us know if you are willing to participate in a follow up email/phone interview.

Please tick the relevant box

I would like to be entered in the lucky draw for a prize ☐

I am available for a possible follow-up interview ☐

Name:

Cell / phone number.....

Email:.....

Prizes

1 x Laptop worth R6000

1 x Ipod nano 1GB

1 x Digital camera 5MP

3 x MS Student Office (sponsored by Microsoft SA)

10 x 1Gb flash drives

20 x R100 cell phone vouchers

APPENDIX 2: SUBMISSION MADE TO THE RESEARCH
ETHICS COMMITTEE

Access to ICT's for Teaching and Learning: A national investigation of access to and use of Information and Communication Technologies (ICT's) for teaching and learning in higher education in South Africa.

Project Team

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Purpose of research

The research project is being conducted by the University of Cape Town and is funded by the National Research Foundation. It comprises a study of 10 universities across South Africa. It is based on a Western Cape project which surveyed 6577 students and 515 academic staff and which has served the purpose of a pilot. The report of is available at <http://www.cet.uct.ac.za/projects/virtualmobius>.

The primary component of the national study is a survey (which will be conducted in March/ April 2007), and aims to

- examine the different types of resources people need to draw on in order to have access to new technologies for higher education;
- consider the factors which encourage or inhibit peoples take up and usage of new technologies for teaching and learning
- identify the teaching and learning activities which people engage in (with a view to ascertaining whether people are exploiting all the possibilities of the new digital media forms)

Research of this kind has never been conducted at a national level in this country and will demonstrate the importance of ICTs for teaching and learning in higher education and provide baseline data on which commonly held assumptions can be tested. It has captured the interest of the National Departments of Education and Science and

Technology and it is hoped that outputs will inform policy-making and resource allocation in educational technology development in the country.

Ethical consideration

In undertaking this research various sources have been consulted in order to ensure that this study meets acceptable ethical guidelines. The project team also undertakes to abide by the Code of Research Ethics of the Human Sciences Research Council.

We agree that participants in the survey should know they are taking part in research and that this research should be carried out with their consent. This consent is voluntary and should be based on an adequate understanding of the survey.

In order to give participants a clear understanding of the study we provide a

- Letter of invitation to participate
- Information statement from the Researchers, Laura Czerniewicz and Cheryl Brown
- Verbal overview of the study by the fieldworker handing out the paper questionnaires.

Consent Mechanisms

Paper questionnaire: The questionnaire is anonymous and will be handed out to students in a group situation. The return of a completed questionnaire will be accepted as indication of the respondents consent to participate in the study. (This is made clear to participants in the Information Sheet)

Online questionnaire: Participants will be presented with the information sheet prior to accessing the questionnaire. In order to proceed with the questionnaire they will have to “Accept” the statement. Again a completed questionnaire will be viewed as the respondents consent to participate in the study. Uncompleted questionnaires will not be saved by the server.

We are requesting some personal information from each participant to assist in analysis of our results as our research indicates that social background, age, sex and language all influence people’s use of computers. We are also requesting information about the courses people are studying/teaching as we believe there are differences in the use of computers across courses. This information will remain confidential and will not be disclosed.

There is an optional section at the end of the questionnaire where participants are asked if they would like to give us their name and contact information in order to be entered in a lucky draw to win some prizes. We would also like to be able to conduct selected follow up phone interviews and ask participants to provide contact information and acknowledge their interest in participating by ticking a box.

This information will only be used for the purpose of notification of winners of the prizes or follow up interviews.

If we contact participants for follow up interviews their consent will again be sought and they will be advised again that their participation is voluntary.

Questionnaire

A copy of the question for both academic staff and students is attached to this submission.

The survey instrument comprises three parts:

Part A: Access to computers

Part B: Your modules/courses and computers

Part C: Information about yourself

Questions comprise a range of likert scale, binary scale, selecting from a range of options and open ended questions.

Sampling Procedure

The survey is being conducted both online and in paper format. We envisage that whilst the online survey may be more flexible and convenient for some it may not be so for all everyone. In addition as the research focus is on access it is important to the research design that we make sure that students without sufficient access to a computer or confidence to complete an online questionnaire also have the opportunity to participate in this research.

Academic staff and students will be invited to participate in the survey through a number of means which can include email or links on student laboratory computers or webpage.

In addition academic staff can be invited to participate through their Faculties and students through their courses.

In particular student sampling will be based on the proportional stratified random sampling strategy used by Sayed (1998) in a survey on information literacy in higher education conducted in the Western Cape in 1998 and Czerniewicz and Brown (2006) in a regional study of ICT access conducted in the Western Cape in 2004.

This approach first classifies the population into two or more strata (subpopulations) and then aims to make the ratio of the sample size of the sub-population proportional for all the subpopulations (Jackson 2002).

The process involves the following:

1. The total student population with respect to undergraduate and postgraduate students in each faculty will be ascertained.

2. From this, a sample size of approximately 10% of the student population respectively will be chosen within each faculty.
3. In each main faculty, subjects or courses which broadly represented the field of knowledge will be chosen and the students divided proportionally between undergraduate and postgraduate.
4. In each of the subjects (where possible) the undergraduate group will be sampled at a first-year level and then third-year level (in order to sample senior undergraduate students). However, where a subject does not have a third-year equivalent we will sample second-year students.

References

- Czerniewicz, L., & Brown, C. (2006). The Virtual Möbius Strip. Centre for Educational Technology Research Report Series 1. University of Cape Town. Available <http://www.cet.uct.ac.za/projects/virtualmobius/> [9 March 2007].
- Jackson, G. (2002). Sampling for Social Science Research and Evaluations. [Online]. Available: http://www.gwu.edu/~gjackson/281_Sampling.PDF, [12 June, 2006].
- Sayed, Y. (1998). The Segregated Information Highway: Information Literacy in Higher Education. Cape Town: University of Cape Town Press

Information sheet

Please read the following information sheet before beginning the questionnaire.

Dear participant

Thank you for your interest in participating in this research project “A national investigation of access to and use of Information and Communication Technologies (ICTs) for teaching and learning in higher education in South Africa”.

Why are we doing this?

The aim of the project is to examine what access you have to ICTs and to explore the ways in which ICTs are being used in teaching and learning.

Who are the researchers?

The study is being carried out by Associate Professor Laura Czerniewicz and Cheryl Brown from the University of Cape Town and is funded by the National Research Foundation.

What do we expect from you in the study?

Participation in this survey is voluntary. By completing and returning this questionnaire, you are agreeing to take part in this research and to the publication of the results with the understanding that anonymity will be preserved. If at any stage you do not wish to continue with the questionnaire you may withdraw your consent by simply not returning this paper copy of the questionnaire. Although this is an anonymous survey, space is provided at the end of the questionnaire for contact details of people who would like to make themselves available for follow-up interviews or to enter the lucky draw for prizes.

The questionnaire will take you 20 to 30 minutes at most to complete. The majority of questions are in multiple-choice format and ask you to select the most appropriate answer. However, in most cases there is space to provide further comments should you wish to do so.

How are we going to use the results?

This is an anonymous study. We are not trying to find out your identity nor examine the responses on an individual basis. The results of the project will be published, but you may be assured that any information obtained in connection with this study that may be identified with you will remain confidential and will not be disclosed.

What are we doing to ensure confidentiality?

To ensure security, data is being stored electronically in a database on a secured server and access is restricted to the researchers. Questionnaires will be stored in a locked storage room until no longer required.

Lucky Prizes

Completed questionnaires will be entered in a lucky draw for a number of prizes. (However you will need to fill in your name on the last page of the questionnaire to enable us to contact you should you be a winner).

Please keep this information sheet and if at any stage you have any queries or concerns regarding your participation in the study, please contact us.

Signed by candidate

Signature Removed

Signed by candidate

Signature Removed

Associate Professor Laura Czerniewicz and Cheryl Brown

Project Director and Researcher

Email : Cheryl.Brown@uct.ac.za, or Laura.Czerniewicz@uct.ac.za,

Phone: 021 650 5035

ID-13, Q1, I never use computer before in my life, but I am to take a course next year, Q2, I have access my password but a friend help me through out, Q3, I don't have much knowledge about computer, Q4, , Q5, the is nothing I don't found valuable in using ict, Q6, the nodes that the lecture did not complete in class Q7, no

Demographics: Setswana, Postgrad, 22-25 yrs, high seg, Female

ID-14, Q1, a lot of computers on campus are not working and you may find that we have to wait for a long time for a computer which is not occupied. we are many as students but the computers are few, Q2, , Q3, , Q4, , Q5, so far everything is still okay using a ict for learning it helps a lot, Q6, it gives me information via internet for my studies. it also make us know everything happening in the world. It also give us information about the past worldwide Q7, I think if computers can be enough for us all as students we would be able to make assignments successful that is my wish and if we as students can commit ourselves with training skills in computer it will also help us to be comfortable with

Demographics: Sotho, Undergrad, 22-25 yrs, low seg, Male

ID-27, Q1, some computers do not function properly so you have to keep searching and moving from one computer to the next hoping it works, Q2, its accessible because I spend the most part of my day here, Q3, it is not hard at all, Q4, the internet café is located at the mall where I can access it while shopping or running errands, Q5, information overload. Have to be selective about the information you choose to use, Q6, online assessment, support, accessibility, easy to use Q7,

Demographics: Setswana, Undergrad, , low seg, Male

ID-60, Q1, there are too many people in the computer lab & few computers, Q2, coming early to the lab & asking other people for help if I have any problem, Q3, there is no internet. I don't have a computer of my own, Q4, going to the internet café, Q5, playing videos & music, Q6, learning how to use the computer. Learning how to use the internet Q7, icts are very important in life because they can really help you & make studying & life in general easier

Demographics: Setswana, Undergrad, <22 yrs, average seg, Male

ID-62, Q1, nothing except if I am not with your student card & ans number, Q2, what helps me is that the lab assistant makes sure that the computers are ready to use for me, Q3, because of money if I don't money, Q4, the knowledge I have from school from my lecturer & the computer assistant in the computer lab, Q5, I like it because it helps me so deep into my studies & after all I will get what I want, Q6, it makes work easier & it makes you understand your studying more Q7, well for all I have to say is that today's academic really needs ict for better because most of the works being done today need ict so its very important

Demographics: English, Undergrad, <22 yrs, average seg, Female

ID-88, Q1, its nothing more except or despite the fact that its me because thus far I'm not computer competent due to the environment I hailed from. I'm still struggling to be one, Q2, to get access of the latter, when encounter some difficulties I normally or usually ask securities or my classmates more especially my reliable friends, Q3, , Q4, , Q5, since I haven't use them, I cannot lay my comments, Q6, I imagine it very helpful & directive Q7, since I am 1st year student hailing from a very poor environment (Keerom farms in Lichtenburg) I would if it were possible ask to be taught firstly some basics that will lead me into knowing computer as I know myself

Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-97, Q1, software, Q2, internet, Q3, location, Q4, internet, Q5, sometimes it too slow, Q6, I find bursaries & internships Q7, I generally think its good it helps a lot of people & its valuable

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Male

ID-99, Q1, because there are too many computers which are not working, Q2, there is a computer lab which has about 180 computers & the library also with people who can help you, Q3, because I have to pay high fees in order to access the internet, Q4, nothing, Q5, , Q6, Q7,

Demographics: Sotho, Postgrad, <22 yrs, low seg, Male

ID-100, Q1, the computer lab does not accommodate the large number of students in campus so its 1st serve basis, Q2, my personal access as a student, Q3, they are used by the public & often not available, Q4, location the public library is not far from where I stay (+/- 14km), Q5, writing tests on basic ict skills or programmes, Q6, research on internet, personal powerpoint presentations that contribute to my studies Q7, I love icts & if I could I would spend 80% of my daytime on them. It is difficult to access them both here at the university & public library because of the number of users

Demographics: Setswana, Undergrad, , ,

ID-153, Q1, , Q2, , Q3, n/a, Q4, n/a, Q5, no idea as I have not used for lectures, Q6, no idea/inputs Q7, bringing/employing lectures that know how to operate computer applications eg computational mathematics

Demographics: Other South African language,, <22 yrs, average seg, Male

ID-164, Q1, , Q2, it is because I have done inf & that gave me the knowledge of computer skills, Q3, because its not mine so that I must ask for consent, Q4, to be updated with my staffs, Q5, when I do research for assignment, Q6, because it is able to assist us Q7, no

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-177, Q1, time, Q2, access internet, Q3, noise, Q4, encouragement from people around me & my determination to know it, Q5, playing too much music, Q6, using graphic software & other software to upgrade my learning Q7, icts should make more accessible to all students for a brighter future of our country

Demographics: , Undergrad, 26-42 yrs, high seg, Male

ID-179, Q1, the only problem I have with accessing icts on campus is that I don't reside on campus, Q2, I use it for academic purposes, leisure & for any info I might need since it is the only place where I can access internet & computers in general, Q3, I don't have any place where I can access internet/icts from except on campus. The campus ict centre really helps me, Q4, n/a, Q5, the only problem I have is accessibility because I don't reside on campus, Q6, it increases my ict skills Q7,

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-190, Q1, there are few computers on campus, which cannot cater for the masses, Q2, my experience with computers & long term studying at university, Q3, because most people in my community don't have access to computers, Q4, my knowledge of computer & owning a computer at home, Q5, it makes work easier & you work more effectively, Q6, improves my learning capabilities Q7, this is a computer dominated world, so it is essential for me to understand computers

Demographics: Setswana,, <22 yrs, low seg, Male

ID-206, Q1, because I don't know much about computers, Q2, computer, Q3, internet because I don't understand it, Q4, software, Q5, playing games, Q6, solving problems, analysing info, understand concepts & ideas Q7, no

Demographics: Setswana,, <22 yrs, low seg, Male

ID-236, Q1, , Q2, , Q3, I don't have a computer, Q4, n/a, Q5, nothing, Q6, when I am confused I consult icts & it probably helps me urgently Q7, keep on helping us with the inf you are offering I really do appreciate

Demographics: Other South African language, Undergrad, 22-25 yrs, high seg, Female

ID-263, Q1, because the computer lab is always full of students & at some point u do not get a computer at all, Q2, when I am doing my assignments or when I am searching for the info in the internet, Q3, where I live I do not have access to the computers & mostly I don't get the time to go to the internet café, Q4, , Q5, I don't like anything, Q6, it help with the info Q7, it very good

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-316, Q1, When there are too many people in the labs, Q2, , Q3, I have my own computer but no internet access, its too expensive, Q4, , Q5, I think ICTs are essential and I cant think of a reason not to like them, Q6, It improves learning. A typed project looks better excel can help with math and numeric equations Q7, No

Demographics: Afrikaans,, , ,

ID-336, Q1, Most of the time the computer lab are full or sometimes there is a class so it makes it difficult to find a computer., Q2, It helps me to get access on internet, Q3, Because I don't have internet at home so it is very hard to get ICTs off campus., Q4, I am able to finish my assignments at home, Q5, I at first thought it was a waste of time but the more I understand it, I think its great., Q6, I find information on internet very relevant to my studies and I can look for work in the internet easily Q7, No

Demographics: Sotho, Undergrad,, , Female

ID-341, Q1, Sometimes computers lab become full of students, Q2, , Q3, Lack of ICTs facilities off campus, Q4, , Q5, Lack of training in using ICTs frustrates me., Q6, They save time in general Q7, I wish more staff could be made available to assist some of us who need guidance

Demographics: Xhosa, Undergrad,, low seg, Male

ID-361, Q1, Nothing, have access to computers and internet, Q2, IT assistants and internet, Q3, stated above, Q4, N/A, Q5, less help from the ones who have skills, Q6, Makes learning easier Q7, No
Demographics: Sotho, Undergrad, 22-25 yrs, average seg, Male

ID-426, Q1, internet, Q2, computers, Q3, , Q4, , Q5, I like it for searching information, Q6, Required skills and potential Q7,
Demographics: Sotho, Undergrad, 22-25 yrs, low seg, Male

ID-439, Q1, The number of computers are few and there are lots of students who want to use them at the sametime, Q2, Labs because if you not real good in computers you can get assistance from the people who works there, Q3, , Q4, , Q5, Programming and excel, Q6, Learn more about on how the computer operates Q7, No
Demographics: Other South African language, Undergrad, 22-25 yrs, low seg, Male

ID-459, Q1, nothing, Q2, , Q3, , Q4, , Q5, , Q6, The fact that I learn to know computer fast Q7, there must be a lecturer for RINL III
Demographics: Sotho, Undergrad, , average seg, Female

ID-835, Q1, cause they are few computers and labs on the campus, Q2, computers, Q3, location of the internet cafe, Q4, there are plenty of computers, Q5, N/A, Q6, easier search of information Q7, they are very important and they improve computer literacy and they are associated with latest technology
Demographics: , Undergrad, 22-25 yrs, average seg, Male

ID-859, Q1, The vast amount of practical sessions & SI sessions & there aren't enough alternative venues one can go to to use the computers, Q2, webct & the v drive for accessing information & the library online resources, including opac, when you need referencing for assignments, Q3, The time it takes for webct to run is too long. Also I can't access my UFH mail, Q4, ebscohost webct, Q5, , Q6, They assist with accessing information & different viewpoints when doing assignments, especially at 3rd yr level Q7, we really need a huge investment in computers at UFH & we need larger labs & more labs as to match the increasing intake of students please!!!
Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-893, Q1, few computers and long queues at the engen lab, Q2, N/A, Q3, I don't know too many people whose computers are connected to the internet, Q4, N/A, Q5, I hate the fact that when you search for something on the internet some useless information is shown that does not pertain to what I am looking for, Q6, E-books and e-journals have proved to be a paramount importance in my studies Q7, I just realise from this questionnaire that there is a lot about ICTs that I don't know. I think it would be a great help if the university made a point that ICTs are used to the fullest in learning
Demographics: Other South African language, Undergrad, 22-25 yrs, high seg, Male

ID-896, Q1, Computers or not sufficient Internet some-time is not available, Q2, faculty computer lab, Q3, I don't have mine, Q4, Computers (practical work), Q5, It helps a lot and can process very fast, Q6, It is useful and it could be more if there can be more skilled lectures or tutors for computers Q7,
Demographics: Xhosa, , <22 yrs, average seg, Female

ID-973, Q1, Insuffiecnt computers for the undergraduates who use the library engen lab. We wait for a long time, slow queue to obtain a lab card and by that its now a crash program with the lectures as we spend much time waiting. We also are experiancing d, Q2, Electronic mailing, chatting and accessing new things on the internet as well as typing assignments., Q3, N/A, Q4, I can access internet facility at my time, own pace unlike on campus where you are given only 2hrs and the computers are sometimes slow and they close early., Q5, N/A, Q6, Q7, I think the university should introduce more computers for undergraduates or to open 24 7 to ease the demand or to provide internet cable in residences in each and every room so that we can have access to the net and reduce pressure
Demographics: , Undergrad, <22 yrs, average seg, Female

ID-985, Q1, There are few old model computers that react very slow, Q2, My previous literacy background and assistance from friends and family., Q3, Costs of internet services and software, Q4, N/A, Q5, up to date information, Q6, updated data Q7, Limited access to resources because of scarcity
Demographics: , Undergrad, <22 yrs, high seg, Male

ID-1071, Q1, Resources matched against users, Q2, Composure - as in being aware of what is happening around me, thus, internet electronic learning through CD's, Q3, I don't own a laptop. So

many people for the one computer in res. Which doesn't even have internet, Q4, Studying in a relaxed environment, Q5, I love using ICTs, Q6, I get to study on my own time and pace not being disturbed Q7, I wish there could be more access to ICTs for everyone for this will make the world a better place
Demographics: „22-25 yrs, high seg, Female

ID-1133, Q1, Too few computers. Place/lab too small. Times of computer availability in sufficient, Q2, correspondence with lectures. Online learning. Access to learning material., Q3, not always available for me to use it., Q4, Learning using utilities given to us by the department, Q5, computers are slow. Environment not healthy. I am clueless of how things work, Q6, information can be accessible. Can make life a lot easy Q7,

Demographics: English, Undergrad, 22-25 yrs, low seg, Female

ID-1213, Q1, nothing. Computer labs are open until 22h00 during week days. They are also open during the weekend. So it is easy to access icts, Q2, the availability of computers on campus & the staff, Q3, , Q4, , Q5, subjects that have a webct page but don't use it, Q6, valuable teaching aid Q7, no

Demographics: Sotho, Undergrad, average seg, Male

ID-1323, Q1, sometimes the labs get too full & also the fact that sometimes there is a virus but this does not occur often, Q2, I always have people around me that will help eg friends or people at the desk, Q3, there is no internet so it's a bit hard, Q4, the fact that I have a computer helps me, Q5, the discussions are not very useful, Q6, questionnaires Q7, n/a

Demographics: English, Undergrad, 26-42 yrs, low seg, Female

ID-1351, Q1, when the computer labs are full it becomes hard, Q2, short distance to the labs & software supplied by the university, Q3, no access to your own computer, Q4, internet cafes, Q5, none, I feel everything about icts is vital in helping to do what it is one wants to do, Q6, the internet - you can anything you need for assignments, projects. It helps make studying easy Q7, access to icts is sometimes limited but icts are very vital tools for studying

Demographics: Xhosa, Undergrad, 22-25 yrs, average seg, Male

ID-1362, Q1, n/a, Q2, computer experience I have over the past 4 years, Q3, n/a, Q4, internet cafes, Q5, at the moment n/a, Q6, most of the things that are I do Q7, n/a

Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-1473, Q1, sometimes you find that all computer labs are full, Q2, computers, internet, labs & software also because I am quite computer literate, Q3, electricity it trips quite often, Q4, when the house is empty during the day when the use of electricity is relatively low, Q5, if you not at home you can study over the net etc, Q6, Q7,

Demographics: Xhosa, 22-25 yrs, average seg, Female

ID-1521, Q1, nothing, Q2, my previously learnt computer skills, Q3, nothing, Q4, my previously learnt computer skills, Q5, nothing, Q6, n/a Q7, n/a

Demographics: English, Undergrad, 22-25 yrs, average seg, Female

ID-1531, Q1, lack of more knowledge on icts, Q2, computers, Q3, internet lack of money, Q4, friends, Q5, improving skills, Q6, broadening your mind Q7, nothing

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-1543, Q1, it really not difficult, Q2, I get what I want & what I really need, Q3, for internet is not easy because the library is far, so I prefer to use just my computer, Q4, I am not used to be helped by anyone when I use mine, Q5, nothing honestly, Q6, is processing exactly what I want, that's why I like it & see its vital Q7, no nothing

Demographics: Sotho, Undergrad, <22 yrs, low seg, Female

ID-1544, Q1, it sometimes takes you long when using internet because it is slow, Q2, it provide me with lot of info that I need when preparing my assignments, Q3, they are often scarce where I live, Q4, nothing, Q5, when typing my assignments because I am taking long time because I am slowly, Q6, improving my typing skills Q7, I wish I could have my own icts so that I will practice my speed & be able to type quickly & access lot of info from the internet

Demographics: Sotho, Undergrad, <22 yrs, low seg, Female

ID-1599, Q1, Shortage of computers that are not used at that time, Q2, Being on campus early, Q3, Can't afford it, Q4, To continue on what I was doing on campus, Q5, don't have the skill, Q6, Get some

experience using computers Q7, Make it compulsory to law students
Demographics: Setswana, Undergrad, <22 yrs, low seg, Female

ID-1605, Q1, Pin codes does not work anywhere if you do not go often, Q2, Nice labs, Q3, My knowledge, Q4, Software, Q5, consume and a lot of time, Q6, Improve learning Q7,
Demographics: Afrikaans, Undergrad, 26-42 yrs, low seg, Female

ID-1657, Q1, N/A, Q2, Technical Assistants, Q3, N/A, Q4, General knowledge of computers, Q5, Questionnaires, Q6, Old tests, forum, spreadsheets Q7, Without ICT studies would be hell
Demographics: Afrikaans, Undergrad, <22 yrs, average seg, Female

ID-1709, Q1, Software, I am not very computer literate, its made difficult., Q2, Some of my friends are quite computer literate. Otherwise nothing, Q3, The availability of computers, Q4, The location, Q5, Too many information makes it difficult to choose, Q6, Easy to find information on world wide topics, more knowledge is gained, fast Q7, I support any project which aims at making more people computer literate, etc
Demographics: Afrikaans, Undergrad, low seg, Male

ID-1715, Q1, software, Q2, labs, Q3, havent used if off campus, Q4, , Q5, , Q6, Q7, Do not normally use ICT especially for studying due to my lack of skills and knowledge of the computer
Demographics: Sotho, Undergrad, Female

ID-1784, Q1, , Q2, , Q3, Most of the computers I use off campus don't have internet and that makes it hard, Q4, Information softwares like encarta, Q5, Sometimes I have difficulty finding the appropriate information and that takes time, Q6, Q7,
Demographics: Setswana, Undergrad, 26-42 yrs, high seg, Female

ID-1807, Q1, nothing, Q2, My little knowledge and the help of lab assistants, Q3, Don't have a computer, Q4, Don't have access unless sometimes my phone, Q5, That sometimes it takes long to log in or that not all information are 100%. Accurate books are more reliable, I think, Q6, That you get a lot of information concerning the specific topic of subject Q7, No comment. Thank you
Demographics: Afrikaans, Undergrad, 22-25 yrs, high seg, Male

ID-1828, Q1, When computer labs are full, Q2, The internet, WebCT and other software, Q3, Shortage of computers and less internet café for all of us, Q4, To be up to date with my work and make sure that I have more information that I need, Q5, none, Q6, The valuable things I find are the course information and notes for a course that are provided on the ICT are helpful Q7, It shouldn't be made that each course is accessible in the ICT and addition information
Demographics: Setswana, Undergrad, 26-42 yrs, low seg, Male

ID-1838, Q1, During the day there are a large number of people who are busy, which forces me to go to the lab late at night., Q2, There is always lab assistance and the equipment is easy to use and responds quickly, Q3, There is only one computer so one needs to wait their turn if someone is busy, Q4, The computer is at home, Q5, , Q6, Easy access to information when doing research. More skills are aquired on different ways of using ICTs Q7,
Demographics: Other South African language, Undergrad, <22 yrs, average seg, Female

ID-1839, Q1, Sometimes computer labs are full so end up not accessing anything but other than that its not hard at all, Q2, computers, internet, Q3, computers, internet, Q4, location, Q5, I don't like the fact that its more visual other than practical doing., Q6, you see, do and think about Q7, Am not bad nor perfect in accessing ICTs ICTs are best additions to learning.
Demographics: Other South African language, Undergrad, 22-25 yrs, low seg, Male

ID-1880, Q1, Sometimes difficult to access the internet, Q2, It is very simple to use, Q3, I do not have access to the internet yet, Q4, I live about 50m from campus, Q5, NA, Q6, It gives me a much better understanding of what I need to know. Therefore it makes me more confident and I enjoy the work Q7, If not for the use of ICTs many students would struggle with their studies
Demographics: English, Undergrad, ,

ID-1891, Q1, Not enough computers in labs and internet is slow., Q2, Having my own laptop at residence helps as there is always access to internet, Q3, Internet is slow, Q4, always available, Q5, Pop ups and information not related to that being researched, Q6, The way things are explained in an easy and interpretable manner Q7, I feel that they are essential for the future and that they assist in many different ways
Demographics: English, Undergrad, <22 yrs, low seg, Female

ID-1892, Q1, There's not always a pc open when I have to use one, Q2, I am computer literate and enjoy working on a pc, Q3, Internet connections/network problems. My dad loves working on the pc, Q4, The fact that there is a computer in my home, Q5, When researching on the internet at varsity - it takes very long. The computer makes my eyes very tired, Q6, Max time of access to info - helps studies Q7,

Demographics: Afrikaans, <22 yrs, low seg, Female

ID-1899, Q1, knowledge of the computer, Q2, There are people who help us, Q3, Some times the laptop is not home., Q4, catch up with things I couldn't do. And do my assignment, Q5, I'm a slow tipper. It sometimes takes long to do an assignment, Q6, Helps with my spelling and to get information about things I missed in class or didn't understand Q7,

Demographics: Setswana, Postgrad, <22 yrs, average seg, Male

ID-1960, Q1, Printing - long ques. Labs often full - sometimes wait, Q2, , Q3, , Q4, practical - at home, Q5, confusing mostly, Q6, internet - finding information Q7,

Demographics: English, Undergrad, <22 yrs, high seg, Male

ID-1983, Q1, software, Q2, computers; internet, Q3, we are crowded, Q4, my previous knowledge, Q5, waste of time, Q6, improve learning Q7, No

Demographics: Sotho, Postgrad, 22-25 yrs, low seg, Male

ID-1988, Q1, I don't have much knowledge of computers, Q2, I had a course about computers and the use of it (BRS III), Q3, I don't use a computer off campus, Q4, , Q5, I don't understand how to use it and that is frustrating, Q6, I can find information and don't have to go through books Q7,

Demographics: Afrikaans, Undergrad, <22 yrs, average seg, Male

ID-2048, Q1, Availability of a computer, the speed of the computers (internet etc) are sometimes compromised due to the amount of people using them at that stage, Q2, We've got three labs. Thus if one is full, you still have a chance at the others, Q3, Location, money, Q4, having people with available ICTs, that I can use for free, Q5, Sometimes it makes it more difficult when you're not very proficient at using ICTs, but you have to use them never the less, Q6, Save time, makes work easier, communication faster Q7,

Demographics: Afrikaans, Undergrad, <22 yrs, high seg, Female

ID-2062, Q1, lack of computer knowledge, Q2, personal assistance, Q3, lack of knowledge, Q4, personal assistance, Q5, lack of knowledge and skill, Q6, obtaining info Q7,

Demographics: English, 26-42 yrs, low seg, Female

ID-2074, Q1, internet, I did computer microsoft words in CPP and this year I could not continue with BRS 111 because I do not have a bursary I'm responsible for all my fees, books and hostel fees but I like to know more about internet, Q2, computers, Q3, internet, Q4, , Q5, ICTs are helpful, Q6, Improve my learning and studying easier Q7, I think my marks in general in all courses will improve if I can know or have access to the internet and have skills

Demographics: , Undergrad, <22 yrs, low seg, Male

ID-2082, Q1, I can't send email afraid of my bills, Q2, My friend, Q3, I don't know how to access it, Q4, nobody, Q5, sending SMS, Q6, You search for books by using ICTs Q7, If I can find someone helping me to use it in the lab maybe it will help

Demographics: Sotho, Postgrad, <22 yrs, low seg, Male

ID-2149, Q1, The fact that we are more than 20 000 students, and sometimes, it's hard during the deadlines of tutorials to find a computer, Q2, The fact that we get free internet use, and that the computers have the latest, software, such as windows, and MS Office, as well as novell, Q3, The fact that, I know have to pay for internet usage, Q4, I can access it, at any time, day or night, Q5, You, sometimes, get addicted to it, Q6, It helps, to solve problems, specially work of research related Q7, N/A

Demographics: Afrikaans, 22-25 yrs, high seg, Male

ID-2170, Q1, sometimes the computers are fully occupied with students typing their assignments, so it's sometimes hard to access ICT especially during the day time., Q2, I get more information on the internet about news of what's going on in the world, Q3, Sometimes the times don't go through easy? Especially when you're using the internet, Q4, , Q5, sometimes it's too technical, Q6, It enables me to learn new things Q7, I would request of it could be made compulsory for every student that joins college. So that by the time you reach campus, you are aware of how to do many things

Demographics: English, Postgrad, <22 yrs, low seg, Male

ID-2224, Q1, if you don't have activated password, Q2, activate the student card before to enter the pin number, Q3, the situation, Q4, the situation, Q5, they are those that knows computer well & they can open our things, Q6, finding the info Q7, no
Demographics: Sotho,,22-25 yrs, low seg, Male

ID-2262, Q1, There are ALWAYS really long queues and people tend to push in. Sometimes the internet can get slow if there are lots of people and the version of Windows is getting outdated, Q2, I can use it when I have free time between classes and it is pretty efficient and gets the job done, Q3, The speed of the internet on the computer and the unreliable connection of the 3G card on the laptop, Q4, The fact that I can use it whenever I need it, Q5, You have to use it all the time to keep on top of all the information, Q6, The easy access to course information Q7, no
Demographics: English, Undergrad,, low seg, Female

ID-2268, Q1, Nothing makes it hard for me to access ICTs on campus, Q2, Computer labs does help a lot, Q3, Nothing makes it hard for me to access ICTs when I'm off campus, Q4, my family does help a lot when I'm struggling to access ICTs when I'm off campus, Q5, Its simply things like doing assessments which were supposed to have maybe used many script to be printed on, Q6, Student's discussions and course's slides and the information I get from internet Q7, not really
Demographics: Other South African language, Undergrad, <22 yrs, low seg, Male

ID-2310, Q1, is that i don't know how to get to access it and idont get what i want when i do it. and the internet takes time and end up asking for email address which i don't have., Q2, It has helped me because i now know few things about computers., Q3, the thing which makes it hard is the email thing., Q4, it can help because i think i can find information about everything i need., Q5, there work is easy and helps in future., Q6, i don't know how to get my own email address. Q7, I think they must give us enough time to learn a computer and they must understand that it is hard to know every thing in your first time to even touch it.
Demographics: Other South African language, Undergrad, <22 yrs, average seg, Male

ID-2382, Q1, , Q2, the reason that the lab is open as early as 7:00am and there are enough computer to accomodate most of us, Q3, its not hard to access them it a matter of having to pay for the service that makes it hard, since im not the greatest searcher i spend some time on the net thus it would require me to have minimum r100.00 to spend which i dont have, Q4, the ict's is very close to my neighbour plus the company always informs me via sms if they are closing for public holidays or any other reason and reopening., Q5, it can sometimes be slow, Q6, adequate insightful information Q7, i think since i see that more students are going access to it to sometimes avoid traffic they should open up at least another lab around peak times to operate at least 13:00-16:00
Demographics: Sotho, Undergrad, 22-25 yrs, low seg, Male

ID-2395, Q1, , Q2, , Q3, , Q4, information is easily accessible, Q5, , Q6, improve knowledge and skill Q7,
Demographics: Sotho, Undergrad, <22 yrs, low seg, Male

ID-2458, Q1, long queues, slow computers, time wasted, Q2, the internet and student portal, Q3, the fees charged to use the internet, Q4, nothing, Q5, time limits in doing assignments, Q6, availability of information Q7, it should be implemented in lower grades at schools, to avoid confusion at higher levels
Demographics: Sotho, Undergrad, <22 yrs, low seg, Male

ID-2461, Q1, nothing, Q2, nothing, Q3, the expense, Q4, , Q5, not knowing how to access something because of the lack of skills and due dates, Q6, video clips are helpful Q7, lab assistants must smile a bit! And be more visible
Demographics: Xhosa,, <22 yrs, low seg, Male

ID-2465, Q1, when server crashes at the busiest time, Q2, , Q3, , Q4, , Q5, you can get too much information when you only want a little but nonetheless you learn a lot, Q6, ive learned to ask for help and not be afraid to use a computer Q7, I'm glad ive learnt it because it is very relevant
Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-2494, Q1, in the internet lab there are shortage of computer, so it takes me time to get in there and do my things., Q2, internet, Q3, I don't know any place where I can access ICTs when im off campus, Q4, internet, Q5, MIA, Q6, getting notes from Edulike, Practice quizzes from Edulike, else internet(gig.google) to find information related to my course or assignment Q7, I think ICTs should be

a compulsory course because nowadays wherever a person is working, a computer is needed.
Demographics: Other South African language, Undergrad, <22 yrs, low seg, Male

ID-2495, Q1, nothing not unless am busy, Q2, internet, Q3, internet makes hard because its expensive, Q4, computers and internet at home, Q5, 1) browsing through the internet for no reason. 2) making noise with friends on the labs., Q6, 1) find info for my assign. 2) find sources. 3) clear description of everything. 4) help me come up with better results. 5) research Q7, it helps a lot and it is very essential something we cannot do without
Demographics: , Undergrad, , low seg, Male

ID-2538, Q1, software at residence, number of computers at labs., Q2, mostly internet, Q3, internet and certain software, Q4, Locatron, Q5, takes up a lot of time - I don't particularly enjoy using ICT's for learning although necessary., Q6, it is valuable way of adopting myself to the infinite changes of technology. Q7,
Demographics: Zulu, Undergrad, , low seg, Female

ID-2584, Q1, sluggish at peak times., Q2, faculty labs, as not everyone is permitted into them. During lectures and off peak times, it is easy (or this helps) to find a computer., Q3, power failures, Q4, personal computer (PC) Broadband (ADSL) connection. When the power is on (no power failures), Q5, that one becomes too dependant on ICTS and sometimes there are accessibility problems., Q6, communication and interaction with fellow students and lectures. Availability of course work, lecture slides, tutorial feedback etc. Convenience. A vast array of information available on the internet. Q7, they are an essential tool, that will provide value to whatever course(s) one is doing. They are the way forward (of the future) so everyone should strive to become as computer literate as possible.
Demographics: English, , <22 yrs, low seg, Male

ID-2608, Q1, the fact that we aren't taught to use it, and we have to figure it out ourselves, Q2, getting information is much quicker and easier, even though lecturers say that some information may be unreliable, Q3, the fact that there are not many internet connections i.e. in our residence rooms, thus using a computer in our lab is our only option, Q4, the library, Q5, sometimes you search for information, and it is not available, or it is useless, you have to search 20 sites before you actually find anything, but when you do find information, it is only about a page., Q6, it's very easy to access as much knowledge as possible Q7, if a system can be used that all students understand, and can access information without constraints, then ICTS will be the next best thing since slice bread - seriously. It'll be a step further in the education system
Demographics: Other South African language, , <22 yrs, high seg, Male

ID-2633, Q1, when the computers are offline and we can't access the internet makes things rather difficult, Q2, our computer lab is accessible to a few students makes things easy., Q3, very limited internet access, Q4, friends who have 3G cards, Q5, you have to have a broader knowledge of ICTS to use them. This is a bit of a problem as some of us come to university without any background of ICTS., Q6, makes things easier sometime Q7,
Demographics: Zulu, Undergrad, <22 yrs, high seg, Female

ID-2658, Q1, the queues at the library or CMS are very difficult to cope with, Q2, computers, Q3, the internet café is expensive, Q4, , Q5, sometimes it can become complicated since everyday technology becomes advanced, Q6, finding information about my courses Q7, wish I could have more access to ICTS
Demographics: Zulu, Undergrad, 22-25 yrs, low seg, Male

ID-2673, Q1, sometimes the computer labs are fully occupied and one has to wait for 15-20 minutes to access a computer. On the other hand, lack of adequate knowledge to access the exact information is also a major problem., Q2, at most, there are assistants who give valuable assistance when I get stuck., Q3, I have to pay money to access ICTS, Q4, I can just use my cellphone when I have enough credit through GPRS., Q5, sometimes it takes time and wastes time as well, especially when the ICTS do not function well, Q6, ICTS helps me to have easier access to concepts that I didn't understand and need clarification on Q7, I think more internal courses incorporating computer skills should be made available to the students by the University.
Demographics: , Undergrad, 22-25 yrs, average seg, Male

ID-2679, Q1, as someone who resides off campus, when I visit the CNS it will be full and end up being forced to come on weekends for typing my documents and to do some research, Q2, being patient, Q3, in the area where I live there are no internet café, Q4, nothing, Q5, actually I don't know because I am not well versed with the system, Q6, only on google site where I get some academic

related information Q7, I think by being orientated in the ICTS field, I can be able to use it and be part of the beneficiaries of the system

Demographics: Other South African language,,26-42 yrs, high seg, Female

ID-2723, Q1, computer labs are sometimes full, thus have to wait in line. Some computers with in computer labs don't work, Q2, internet, Q3, computers are always occupied and users log in for hours just surfing the internet, Q4, reading and sending emails, Q5, ,Q6, you get used to using computers which is important in this present society Q7,

Demographics: Zulu,Undergrad,<22 yrs, high seg, Female

ID-2744, Q1, computers are always occupied in the computer labs. Computer labs are cramped and the air feels stale in the lab, Q2, , Q3, it becomes difficult, due to the fact that internet acces at home can only be available after 7 'o clock due to the cheaper access price. I prefer working before the time, Q4, being able to use the ICTS for as long as I need, without feeling rushed and with less noise than at a lab, Q5, internet access becomes frustrating when it takes a lot of time to process the information that I need,Q6, internet use is vital to a learner, especially for essays. Typing essays or assignments is compulsory in almost every faculty of the university Q7, yes! It is highly advisable, for Universities to offer computer courses. An ability to use ICTS lasts a lifetime. Most employers seek employees with ICTS abilities. The computer courses should be implemented URGENTLY!! Thank you for an essentia

Demographics: English,Undergrad,<22 yrs,average seg, Female

ID-2755, Q1, queues , computers that are not functioning properly, server down, on-sight staff usually not present, Q2, when there are many computers available and there are staff to help out when necessary, Q3, n/a (perhaps when our cap runs out), Q4, the fact that it is available in our house, Q5, when they hold yo back, when they are frustratingly slow, when they offer no explanation for errors(in Layman's terms),Q6, ease of access to information, different sources thereof= different perspectives; search tools, electronic format Q7, I think everyone should have access/own a computer of some sort to keep up with the world. I support the OLPC project a lot.

Demographics: English,Undergrad,<22 yrs,average seg, Male

ID-2778, Q1, the labs sometimes you find them very full and students doing non-academic woek, Q2, student assistants that are being placed in each lab, Q3, I don't have any computer, if I need to use one I'll have to come to campus hence, I'm staying nearer, Q4, I come to campus, Q5, playing computer games,Q6, searching info through internet that relate to my studies Q7,

Demographics: Xhosa,Postgrad,26-42 yrs, low seg, Female

ID-2803, Q1, , Q2, , Q3, I live in a village and can't afford one, Q4, , Q5, when I need help, I always rely on friends instead of lecturers,Q6, not much Q7, ICTs are very available but very little is there to teach us how to use these

Demographics: Other South African language,Undergrad,, high seg, Female

ID-2816, Q1, people who use computers to do assignments which clash with other peoples assignments filling up the computer labs, Q2, computers and internet., Q3, I don't have a computer off campus, Q4, , Q5, you don't receive direct communication with a teacher if you have run into a problem,Q6, teach me more about the technical uses of computer software Q7,

Demographics: Zulu,Undergrad,<22 yrs,average seg, Female

ID-2830, Q1, the unavailability of computers in an emergency, Q2, when it is accessible, it is useful for academic work, Q3, there is no nearby place to access the internet, Q4, , Q5, at times it can become a waste of study time,Q6, quick, easy way of learning Q7,

Demographics: English,Undergrad,,,

ID-2839, Q1, when you go there, it is always packed and sometimes logging into other websites like WebCT is very impossible as sometimes our passwords don't work, Q2, the people who work there help and sometimes help ffrom friends, Q3, sometimes there is access and sometimes not, Q4, the lady who owns that computer centre sometimes helps, Q5, the fact that you can't log into certain websites,Q6, makes studying easier and increase my computer skills Q7, no

Demographics: Zulu,Undergrad,,,

ID-2850, Q1, some labs are for certain course students, so lab use is limited if your'e doing certain courses and not others, Q2, the courses I do allow me to have access to a couple of computer labs, thus when a lab is full there is an alternative, Q3, no internet access at home and too many of us wanting to work, plus when it breaks none of us knnow how to fix it, thus an increase of time without

ICTs off campus, Q4, nothing, Q5, slow nature sometimes, going through a lot of info while your'e looking for a small thing,Q6, bring info to you, summarizes info for use, extends access to far away info Q7, access is ok, but skill is lacking

Demographics: Zulu,Undergrad,<22 yrs,average seg, Female

ID-2887, Q1, limited computers and too many people using them, Q2, going to the CNS earlier, Q3, one computer is used by too many people, Q4, making an appointment, Q5, some people are not equiped and do not have adequate skills to enable them to be competent in ICTs and that's a disadvantage for learning,Q6, the internet helps in terms of getting further information and google specifically have relevant information Q7, it would be advisable for the course to be included in all degrees especially for people who lack skills in that regard

Demographics: Sotho,Postgrad,<22 yrs, low seg, Female

ID-2889, Q1, at the moment I have not done that since the system is new to me but there is nothing hard about it, Q2, the internet and computers will be of great help, Q3, little knowledge on computers, Q4, the computer lab is just near my residence, Q5, I have not started using them,Q6, I know that they will improve my learning Q7,

Demographics: ,Undergrad,22-25 yrs, high seg, Female

ID-3005, Q1, There aren't always enough computers, Q2, The library, Q3, my internet is slow and my PC is old, Q4, my friends, Q5, slow internet, too many invasive 'pop-up' advertisements on the internet,Q6, Finding more academic sources for essays, summaries of info for studying (especially spark notes) Q7, I only use ICTs when I have to. I don't enjoy spending time on computers

Demographics: English,Undergrad,<22 yrs, low seg, Female

ID-3045, Q1, It's not hard at all. There's computers everywhere around campus. Sometimes, especiallt lunch time they are almost always full and om Friday mornings., Q2, Computers in faculty labs and the library., Q3, There is no wireless (free) in our residences on campus so it's hard to get access to the internet specifically., Q4, The space where I can access internet is not far from where I live even though it's not safe to walk by yourself and they close early.4, Q5, When you can't download a document that is absolutely essential. Our library computers don't allow us to copy and paste so sometimes you have to read documents and make notes inside the library, which is an utter waste of time.,Q6, When you have access to the right info, you can minimise time spent doing research. Q7, We need to get free wireless internet access throughout campus. Even when you're chilling at the library lawns students should be able to open up their laptops and do some work, research on the net. It should not be limited to certain locations

Demographics: Xhosa,Undergrad,, low seg, Male

ID-3052, Q1, If the department staff are not there to let us in (i.e after hours), Q2, Postgrads have exclusive access to the lab., Q3, Dmistractions, Q4, Very accessible, Q5, Information overload; 'flashy' work can be mor impressive than hard work.,Q6, online databases/information. Email and other communication tools. Q7, Due to computer's inability to work with exceptions, I have found that some students struggle to learn directly from computer training applications (such as SAM2003 etc).

Demographics: English,,22-25 yrs, low seg, Male

ID-3100, Q1, Most of computers are broken, Q2, schedule time, Q3, No electricity at my rural area, Q4, cellphones, Q5, To learn to more skill and more information,Q6, helpful Q7, Must proved more computers at my institution

Demographics: Xhosa,,<22 yrs, low seg, Male

ID-3101, Q1, My lecture does not have enough time to do practical on a computer so I do not have knowledge on how to access the internet or how to use software., Q2, What helps me in the computer is the microsoft word, when I want to type my assignments only., Q3, It is hard for me because I don't even know how to use internet., Q4, N/A, Q5, Games,Q6, Using Database Q7, I would like to use the ICTs for studying as party of my course so that I could improve my skills of computer.

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3102, Q1, scarcity of labs and internet, Q2, is to book in time to secure the computer, Q3, because where I live there is no computer lab and I don't have one at home. Mostly there is no electricity., Q4, n/a, Q5, to be e.posed to different things and pull stress away.,Q6, information getting. Skills equipment. Q7, this should be done in a lower level e.g. primary so that students will become familiar with.

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-3119, Q1, , Q2, , Q3, It is because the computers are few they are few those fact use internet, Q4, I helped by thr people who are having the offices here in the campus, Q5, ,Q6, Q7,
Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-3125, Q1, Computers are basically few and the other thing is I am not computer literate per say, Q2, , Q3, One needs cash to do so, Q4, Readily available computer literate personel, Q5, N/A,Q6, N/A Q7, Computer literate personel should be readily available to assit students with computers
Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-3132, Q1, Internet is not available. Computers are specifically for other faculties. One computer lab is usually busy and many students also use computers., Q2, Wake up early to book a computer because most of the time the computer lab will be full and because the library computer lab printer most of the time is out of order., Q3, There is one computer lab which is small. The library computer lab printer is sometimes not working/, Q4, nothing, Q5, the pornographic videos.,Q6, The valuableness of ICTs s they enable me to research jobs, buy music online. Q7, It would be nice if more computers will be provided so that learners are able to get access to computer and become computer literate, because these days the tasks previously performed manually are now computerised and computer litracy is essent
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-3143, Q1, We are given a limited amount of time. We can't even complete our assignments., Q2, , Q3, because I don't have a computer at home and it costs money to go to an internet café., Q4, Friends who have computers at home., Q5, Don't understand them most of the time.,Q6, N/A Q7, N/A
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3165, Q1, There are few computers and the internet is not always accessible., Q2, To search information about my work ie assignments, presentations and just to search the internet for pleasure., Q3, There are no libraries in my community, even the one in town has no internet., Q4, No help at all., Q5, I find ICTs as very helpful and I see no disadvantages.,Q6, Surfing the internet. Typing my assignments, CV's, etc. Q7, We need more ICTs to assist us with studying and the lack of these facilities will increase the failure rate at WSU.2
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3185, Q1, , Q2, Get help from friends, Q3, I don't have time and financially, Q4, I get help from the friend of mine, Q5, They help us a lot,Q6, They make learning simpler when preparing assignments Q7, Theres nothing that I know because we don't have access
Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3186, Q1, There is a lack of computers you may need an assistant, Q2, Helps to find more information, Q3, I stay in rural areas, Q4, I did not find any help, Q5, Yes there is a monopoly because its not easy to access them,Q6, Assist in gathering information Q7, I would like that each and every diploma. Must have its own Lab and employ more lecturers
Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3220, Q1, There is only a limited time given for students to access computers, eg 1 hour per student per day, depending on the number of students using computers on that day. I am not computer literate because I was only taught the basics, so I use compu, Q2, computers in labs, though scarce, are available., Q3, The use of computers is usually at cafitariums and they cost money., Q4, I borrow a laptop., Q5, N/A,Q6, Information via internet and games which help rela. your mind Q7, If we had more access we would have more knowledge and produce better results.
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-3238, Q1, Computers are not having internet most of time, that make difficult to do work at the time you want it., Q2, To give me more information about writing my curriculum vitae and writing my assignment, Q3, No access most of the time in internet, Q4, Community and library and even go to the office of my relative, Q5, Not easy to own the computer because the time is limited in the computer and others the use for their own use eg sending sms, whereas you, you are waiting for a computer to search information of an assignment,Q6, It helps me to give the right information about the things I want in the computer Q7, Long queues when there is registration in our institution. Lack of information in our lab assistant. Failure to e.amination officer to give students their results. Books in the library are very few
Demographics: Xhosa,Undergrad,, low seg, Female

ID-3239, Q1, There are few people who can assist you, Q2, To get information, Q3, No one owns it, whom I know, Q4, I don't have any, Q5, I don't have access in ICTs, Q6, Improve my learning Q7, To be given e.tra time for searching information

Demographics: Xhosa, Undergrad, 22-25 yrs, average seg, Male

ID-3270, Q1, Because it's the first time to use computer, Q2, I am doing as the module, Q3, Because there are no closer people in my community who have a computer, Q4, , Q5, none, Q6, It makes to become brilliant Q7, No

Demographics: Xhosa, <22 yrs, low seg, Male

ID-3271, Q1, Because of security of resources like here there are few computers, Q2, I get helped when I go to library and book the computer, Q3, It is the fact that I don't have any computer, so I don't get enough time to the one that I share, Q4, It helps me a lot in terms of improving in always connecting and getting to know better things around the world, Q5, I don't like to show porn, Q6, Search information from the internet Q7, I don't think so

Demographics: Xhosa, Undergrad, average seg, Female

ID-3279, Q1, computers on the library are always fully booked and some of them are or does not have internet, Q2, friends, Q3, computers, Q4, location, Q5, That I am not able to use computer without being helped by someone, Q6, Internet, when look for information about assignments Q7, Please we really need help on the computer knowledge atleast provide e.tra lessons on computer training

Demographics: Zulu, Undergrad, low seg, Female

ID-3294, Q1, There are no computer labs and internet, Q2, Scheduled time at library, Q3, No internet in rural areas, Q4, Do not do it, Q5, , Q6, To be perfect in using internet Q7, There is no internet in labs

Demographics: Xhosa, Postgrad, 22-25 yrs, low seg, Male

ID-3330, Q1, time limited, Q2, its because they use rime table, Q3, I don't computers at home, Q4, internet café, Q5, waste of time, Q6, improve my learning Q7, I need to be trained more about ict

Demographics: Xhosa, Undergrad, 26-42 yrs, low seg, Male

ID-3341, Q1, computer labs are limited with a large number of students, Q2, it helps when I go to labs, Q3, many people in one location eg towns, Q4, internet, Q5, for academic studies sometimes or internet, Q6, only microsoftword Q7, to have more access for in order to be able to know more about the site & for academic purposes & use internet

Demographics: Xhosa, Undergrad, 26-42 yrs, high seg, Male

ID-3342, Q1, no proper training or coaching, Q2, I better utili.e the computer at work although there is not enough time, Q3, the scarcity of computer & which can lead to no proper training, Q4, I use the ict at my work, Q5, it brings me a clear knowledge & be creative. I get more skills & work are done fast, Q6, I also take time to complete my tests Q7, it is very wise to use ict because we are in a development country where technology are rapidly & ??? That is wise as a human must have a clear information on ict

Demographics: English, Undergrad, 26-42 yrs, low seg, Female

ID-3353, Q1, computers are very few, Q2, by booking in the library, Q3, in my area there are no computers, Q4, I did not get any help, Q5, , Q6, its simple & very fast to get info Q7, I think there must an increase to icts

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3357, Q1, scarce facilities, Q2, by scheduling time table, Q3, we do not have computers, Q4, no help at all, Q5, don't like it, Q6, I don't know but imporve our learning I think Q7, can we have a tutorial ot workshops about how does this icts operates

Demographics: Xhosa, Undergrad, , ,

ID-3359, Q1, Limited time and scarcity of computer or limted computers, Q2, Register book, Q3, Have to pay to the off campus such as internet café, Q4, , Q5, It help me a lot because I have the skill to use computer and a lot of information I want through internet, Q6, Really helpful because I acquire the skill to use the computer and a lot of information I want through internet Q7,

Demographics: , Undergrad, 22-25 yrs, low seg, Male

ID-3386, Q1, The computer labs are closed most of the time, Q2, Schedule time, Q3, I live in rural areas and there are no computers nor electricity, Q4, nothing, Q5, nothing, Q6, It depends my

knowledge and helps me get skills on how to search information on internet Q7, No
Demographics: Xhosa,,<22 yrs, low seg, Female

ID-3397, Q1, , Q2, , Q3, computers, Q4, location, Q5, Games + entering into unnecessary sites,Q6, Everything is easy Q7, We would love to learn more about computers
Demographics: Xhosa,,<22 yrs, high seg, Female

ID-3402, Q1, There are few computers, Q2, , Q3, Lack of knowledge, Q4, my cellphone, Q5, nothing,Q6, skill that you acquire Q7, We desperately need computers
Demographics: Zulu,Undergrad,22-25 yrs, high seg, Male

ID-3415, Q1, Sometimes the server is not available and sometimes the labs are closed and there are a few computers working on the faculty labs, Q2, If I wake up early and go and book a space in the library lab I can maybe get access of ICT on campus, Q3, Its not that difficult to get computers at home but we do not have internet at home and the local library is a bit far, Q4, I get help if I get to go to my dads office and if im lucky find a not so busy computer, Q5, I really like surfing the net and getting more information,Q6, I find plenty of thing valuable especially obtaining information from the internet Q7, I wish more access would be made available especially on campus so that we can have quality knowledge about ICT skills
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Male

ID-3444, Q1, As I have said on the above answer that there is massive number of people booking for using few computers so it is hard to access computers especially those with internet, Q2, To book early is helpful to me to access it., Q3, Those computers need a person to book in order to get access to them and I have to go further distance to get it, Q4, May be because I use to be early in booking for its use is what helps me, Q5, If it can waste time like by playing unnecessary games so I cannot like it,Q6, Is the skill improvement and being orientated on the technology use. Q7, No
Demographics: Xhosa,,22-25 yrs, low seg, Female

ID-3465, Q1, Lack of computers also make hard time, Q2, Lab time table, Q3, No internet access because im leaving in the rural areas, Q4, I go to other to use their computers, Q5, Using a computer games. I need more time,Q6, I need more time, training and more helpful Q7, No
Demographics: Xhosa,Undergrad,, high seg, Female

ID-3471, Q1, Most of our computer are not in a standard of a university student, they are few, slowly and are many students who went to do their project/assignment but our labs are closed especially during after school hours and weekends, Q2, Most of the students at school uses the lab for internet purposes. The faculty labs most of them do not have the password for the use of faculty labs, Q3, labs are not up to standard and the computer are very slowly and outdated in so much that the hour you spent as student will be over before the time, Q4, The only way is that you have to arrive earlier than others and book as many time as you wish so to have long time at internet, Q5, Most students using this ICT for chatting with their friends for a long time eg sms at mtn and vodacom and some play wrestling and play games,Q6, We are not wasting our time when using ICT, you only instruct the computer what to do then it will display everything. Every lesson of mine I do them at internet Q7, Every computer labs, library must give student the faster computer with full access to internet and the availability of colour printer for project and printer at least 80 computers per lab
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3496, Q1, lack of computers, Q2, the internet, Q3, Money is the reason because, most of them they need money they are not free, Q4, , Q5, Just because I do not use it often, so I do not know what is it that is helpful and what is not,Q6, Same as B17 Q7, If the internet can be connected to each and every computer and also more computers must be added or bought at our institution
Demographics: Sotho,,22-25 yrs, low seg, Male

ID-469, Q1, Only of the computer labs are full and have it for something like half an hour before doing academic work, Q2, , Q3, Like I mentioned before standing there waiting for a computer when at the residence and with my own I have it anytime I want to, Q4, I have my own so it is helping, Q5, It damages my eyes because ill be spending much time working at the screen,Q6, it gives me helpful information and helps in acquiring new skills Q7, no
Demographics: Setswana,Undergrad,22-25 yrs,average seg, Male

ID-887, Q1, Because of the large number of students that make use of them Waiting for the use of a computer can take some time., Q2, It usually is not much help as it seems that books seem to be more available for use than ICTs on campus., Q3, Because of the distance travelled., Q4, Family

members that work in area dealing ICT's., Q5, Thus can often be complicated and arise confusion in students. And widen the gap between lecturers and students.,Q6, The updating of data and introduction to the work environment beyond tertiary level. Q7, Access is limited and at the same time ICT's are very useful.

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-1064, Q1, classes in public labs, Q2, faculty specific labs eg Thuthuka lab, Q3, set-up ie no desk and chair sometimes, Q4, offline software, Q5, When you use computers for mathematical problems you are always far from practising as it pulls you away from the pen and paper - you end up inspecting questions and answers,Q6, submitting assignments is handy, explanations on theoretical concepts Q7, resources should always be adequate for the users

Demographics: ,,<22 yrs, high seg, Female

ID-1067, Q1, It isnt hard there are a couple of computers at the faculty., Q2, Computers and internet, Q3, There are no internet cafes nearby, Q4, I have to visit someone who owns a computer, Q5, I easily get bored and tired of looking at a computer screen,Q6, Makes learning easier Q7,

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Female

ID-1286, Q1, too many ppl, Q2, , Q3, nothing, Q4, , Q5, very impersonal,Q6, Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Female

ID-1293, Q1, not enough computers, Q2, , Q3, , Q4, convenience, Q5, impersonal,Q6, work at your own pace Q7,

Demographics: English,Postgrad,<22 yrs,average seg, Female

ID-1639, Q1, Too many people using computer lab, internet is slow, Q2, Computers, Q3, Don't have a pc here in bloemfontein (only at home in kimberly), Q4, friends house, Q5, Eyes hurt after many hours, sit in same position,Q6, same paper Q7,

Demographics: English,Undergrad,, high seg, Female

ID-1642, Q1, Only if the computer labs are full, Q2, The internet and software, Q3, N/A, Q4, , Q5, Don't very much like to look at the screen all that time,Q6, Can find more info on a subject Q7,

Demographics: Afrikaans,Undergrad,22-25 yrs,average seg, Female

ID-1683, Q1, Just said it aint hard, Q2, , Q3, , Q4, feet, Q5, Screen hurts my eyes after a while,Q6, easy peasy access fast and effective Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-1756, Q1, Over crowded computer labs, Q2, Personal computer, Q3, Internet cafes are expensive, Q4, Internet café when necessary, Q5, easily accessible, convenient,Q6, Information always available, do not need to go directly to the lecturer for information, can communicate via ICTs Q7,

Demographics: Xhosa,Undergrad,<22 yrs,average seg, Male

ID-1810, Q1, Too few computers, Q2, Lots of different labs, Q3, slow internet, Q4, personal space on computer, Q5, Sitting in front of a screen, no personal relationship. Human interaction is important,Q6, Improves knowledge Q7,

Demographics: Afrikaans,Undergrad,, high seg, Male

ID-2063, Q1, Too few computers in library - but then there is an additional computer lab, Q2, easy access, Q3, cost, Q4, easy access, Q5, I dislike the lack of personal interaction,Q6, fast access to data Q7,

Demographics: ,Undergrad,<22 yrs,average seg, Male

ID-2288, Q1, , Q2, My knowledge of the location of the labs, Q3, , Q4, The fact that it is located where I live, it is easily accesible. I don't have to pay as well, Q5, i think that if ICTs a solely used to educate they will take away the essence of teacher-student interactions/,Q6, it is a way of delegating work; lecturers are able to communicate to and with students relevant information without wasting time and using their time to prepare a quality course. Q7, No.

Demographics: Zulu,Undergrad,<22 yrs, low seg, Male

ID-2524, Q1, Long ques on waiting for a computer, sometimes computers or part thereof not functioning., Q2, Writing essays and assignments. Getting illustrations and research from internet, Q3, internet cafes are expensive and not very close to where I live. Have to wait for the use if the computer. Connection to internet not always achieved., Q4, At home- need not travel to campus or any other place- convenient., Q5, sometimes no access to computers for work that has to be done through computer. Relies on electricity whereas paper and pen seems almost always available,

sometimes viruses takes place- work is not saved problems arise keeping one from getting,Q6, Work is better presented- neater and internet helps with research and additional info from around the globe.0 Q7,

Demographics: ,Postgrad,<22 yrs,average seg, Female

ID-2613, Q1, when there is a lot of students who are currently using them, usually during peak times like pre exams or pre-tests, essays, assignments etc., Q2, being able to go on to residence ICTS because not many people live on campus, Q3, when my mother needs the laptop, Q4, I can use internet cafes or go to relatives house, Q5, they difficult in that there's something you don't understand no explanation is given to you,Q6, you have unlimited access whereas your lecture is only available for a specific time so you can always refer back to the ICTS for something you didn't understand Q7, no

Demographics: Zulu,Undergrad,,,

ID-2624, Q1, the number of people who want to access it at the same time, Q2, Patience, Q3, , Q4, , Q5, I prefer reading from a book rather than website, that way I am sure of the source,Q6, efficient and less time consuming Q7, there should be more facilities on campus

Demographics: Setswana,Undergrad,<22 yrs,average seg, Female

ID-2787, Q1, the labs are sometimes packed and there are no computers available to use, Q2, computers and the internet, Q3, the computer sometimes has technical difficulty, Q4, computer and cellphone, Q5, the long time it takes to download information from the internet,Q6, the internet provides lots of information I need to research essays, and gives me easy access to past papers for tests and exams Q7, the internet is very good for communicating with lecturers and getting course information, but looking at a computer screen for hours on end can be very tiring

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-2838, Q1, in most dsys there are more students in the lab than the number of computers in it, we stand in lines, Q2, close to where I attend lectures, Q3, no computers around my area, Q4, relocating to a near-by-internet café place, Q5, sometimes the website is slow and on sites like WebCT, after finding and reading updated notices, you still have a few questions and you cannot ask the computer,Q6, it is easier and you do not have to travel from company to company to find information about them, you just access their websites Q7,

Demographics: Sotho,Undergrad,<22 yrs,average seg, Female

ID-3013, Q1, , Q2, The guidance provided by the students who work in the faculties computer lab and also the computer itself., Q3, , Q4, My friends who know how to use computers completely., Q5, Waste of time and not valuable, since I prefer to read text books and attend face to face lectures.,Q6, Typing, since we are required to type essays. Q7, That the university of the Witwatersrand and other universities should not put too much information in the intemate, rather, refer (us) students to text books instead.

Demographics: Sotho,Undergrad,22-25 yrs,average seg, Female

ID-3, Q1, the fact that most of your computers are slow, when they search information, Q2, internet because it seeks imformation easily, Q3, the fact that I pay a lot of money for internet, Q4, I'm able to relax when doing my job in the computer, Q5, nothing,Q6, easy to find information Q7, no

Demographics: Setswana,Undergrad,<22 yrs, high seg, Male

ID-21, Q1, the lab is normally full so at times one has to wait until someone finishes in order to access the computers and when the lab is full the computers tend to be slow which is a major setback, Q2, I have access to a computer off campus so it makes it easier when it comes to assignments cause I can type off campus and research on campus which gives me time to do a thorough job, Q3, my computer is not connected to the internet cause I cant afford the charges, Q4, I have my own computer, Q5, you are tempted to do other things like listen to music and play games when you get bored or loose concentration,Q6, all the required information is readily and greely available Q7, service the computers regularly cause the situation in our school is that at times there are more dead computers than working ones

Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-24, Q1, computer labs in mafikeng campus are poor,closes early and lacks resources, Q2, , Q3, due to lack of cash to payfor internet at cafes and as a result of having no computer at home, Q4, , Q5, ,Q6, Q7, I suggest security personels in maftown campus better stop looking around us when using computer labs,because we are not thieves,crooks or thugs but here to learn and need to be given

chance to explore the net/internet

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-28, Q1, sometimes the computers are not working, Q2, its that I can get information just here instead of going out of the campus, Q3, I don't know anybody who has a computer and if I want to use the one at the internet café I'll have to pay and I don't have that kind of money, Q4, n/a, Q5, n/a, Q6, its that I get to find info & at the same time learning how to use it Q7, no

Demographics: English, Postgrad, 22-25 yrs, low seg, Male

ID-33, Q1, , Q2, nothing, Q3, don't have money for internet café & I don't have a pc, Q4, nothing, Q5, , Q6, it is fast & convenient Q7, I wish that each room on campus can have 1 pc & course to teach us how to install software & programme, even though we don't do IT

Demographics: Setswana, Undergrad, <22 yrs, average seg, Male

ID-44, Q1, computers aren't enough to accommodate all of us, Q2, coming in first in the morning or late in the afternoon, Q3, money to pay at internal cafes, Q4, keeping up with the latest news, Q5, nothing, Q6, its fast Q7, no

Demographics: Setswana, Postgrad, <22 yrs, high seg, Male

ID-45, Q1, half of computers on the computer lab that do not work. People who personalise the log in (to restrict users) insufficient number of computers with regard to the number of computers (that is being addressed, very good), Q2, labs, internet plugs of libraries (both of them), Q3, , Q4, going to internet cafes, not often do I enjoy the luxury, Q5, nothing, Q6, abundance of info. Info that is not old. Expert analysis of current friends I your community & for larger world Q7, no

Demographics: Setswana, Postgrad, <22 yrs, average seg, Male

ID-46, Q1, more students & few computers are working, Q2, , Q3, don't have computers off campus, Q4, , Q5, playing games, Q6, searching info on the internet Q7, the computer-lab improved as some of us came to work because we don't have access of ict off campus & there are those playing games with it

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-48, Q1, because out of many computers supplied we can access internet only from a few of them, Q2, to be an early bird, Q3, at times I don't have money to pay the internet & transport, Q4, money, Q5, because ot sometimes controls me, Q6, decrease illietracy Q7, more training should be provided

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Male

ID-49, Q1, time & lack of money, Q2, university, Q3, disadvantage background, Q4, none, Q5, parts of a computer, Q6, getting info relevent for my course Q7, its great because technology is growing in SA & the whole world

Demographics: Setswana, Undergrad, , low seg, Male

ID-53, Q1, other computers are not functioning properly, only a few & these are most of the time occupied by other students, Q2, software really helps me a lot, it gives guidance to access icts, Q3, location, I live in a place which is far from icts centers, Q4, nothing, Q5, when I search for answers, the computer display too much of web pages to search on , which is time consuming & sometimes not valuable or irrelevant at all, Q6, with ict, I can ask questions eg - (by typing on the keyboard) & page display the answers. There are many pages to compare the information I received. I just sit & search unlike moving with long shelves of a library to search for books Q7, sufficient & resources must be installed in my campus labs for me not to suffer getting a computer

Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-58, Q1, the high amount of students occupy them quickly & therefore they becaome unavailable for the next user, that is the computer, Q2, computers, Q3, they are not stationary of campus & there are low chances offinding them unoccupied, Q4, my tim management, Q5, they need electricity all the time & most of them are expensive to own, Q6, they provide more than enough info Q7, yes, I hope in future they will provide languages for all users in the world

Demographics: Setswana, Undergrad, <22 yrs, low seg, Female

ID-61, Q1, we are too many as students compared to number of computers, Q2, coming early in the morning before it is congested, Q3, it is not hard but if I have I don't have cash it might be a problem, Q4, asking for assistance if I don't understand, Q5, electricity problems, any cut when you have not saved the info is gone, Q6, all info you need is there Q7, wish computer courses should be increased in my programme

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-74, Q1, there are shortage of computers & some of them don't even work. We must wait for other students to leave, Q2, I must wait for other students to leave or I must come during the night, Q3, where I live we don't have computers even internet café that the problem, Q4, nothing, Q5, people watch pornograph & make them wallpapers,Q6, my courses info Q7,
Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-76, Q1, security guard us most of the times & not giving us a chance, Q2, , Q3, , Q4, nothng, Q5, ,Q6, Q7, itcs is very helpful for me I don't have negative comment but just keep it up
Demographics: Setswana,Undergrad,22-25 yrs, low seg, Male

ID-78, Q1, most of the time computers are occupied & others are not working, Q2, to use microsoft powerpoint or word, Q3, you have to pay a lot of money to use a computer at internetcafe, Q4, I can type whatever I want & save it in a memory stick & print it at school, Q5, nothing,Q6, everything Q7, no
Demographics: Setswana,Undergrad,22-25 yrs, low seg, Male

ID-109, Q1, limited number of computers on campus, Q2, computers, Q3, market price of computers & its resouces, Q4, cellphone, Q5, infections of virus,Q6, access to information, more work that done very easily Q7, more course information & support from lectures based on previous question papers & lecture notes
Demographics: Setswana,Undergrad,26-42 yrs, low seg, Female

ID-112, Q1, I am limited by my technicians to use only internet 4 text not videos & there are geography sites that have videos to be listened to but because of other students who watch porn & play games we turn to suffer because of their ignorance, Q2, my phone, sometimes I will use it to access google searches, Q3, money cause I have to use my phone, Q4, monthly allowance, Q5, reading about someone of the part to understand how the ???original (debatabable),Q6, getting to know what other people have observed or discoveres & using blob for research Q7, good for learning
Demographics: Other South African language,Postgrad,<22 yrs, high seg, Male

ID-113, Q1, there is not enough computers around campus for a person to get access, Q2, I get help from access of labs, Q3, I don't have a computer at home & internet cafes are costly, Q4, nothing, Q5, I don't have any dislikes, because is not waster of time & is very helpful,Q6, it improves my way of thinking, my knowledge Q7,
Demographics: Setswana,Postgrad,22-25 yrs, high seg, Male

ID-121, Q1, most of the computers are out of order, Q2, go early to the computer lab, Q3, its expensive, Q4, nothing, Q5, ,Q6, Q7,
Demographics: ,,22-25 yrs,average seg, Male

ID-129, Q1, sometimes no internet, computers not working, Q2, info on the internet (education), Q3, sometimes no money for internet café, no money for airtime when we use a cellphone, Q4, entertainment, Q5, nothing,Q6, it helps with my studies Q7, no
Demographics: Setswana,Undergrad,26-42 yrs, low seg, Male

ID-138, Q1, my studies, Q2, I get info when needed, Q3, money, Q4, , Q5, shout based info,Q6, more info in fact that is in detail Q7, no comment
Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-158, Q1, when some computers are not working, Q2, internet, Q3, lack of cash, Q4, searching internet, Q5, n/a,Q6, yes Q7, no
Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-172, Q1, it is when there is no network or when there are large number of student using computers, Q2, to access each or every info, researching latest news & also to communicate with other people national & international, Q3, it when I don't have enough money to buy internet or pay for internet but mostly budget for access, Q4, internet café it provides help to access internetn& also cellphone (gprs, 3g) & business of internet communication technologies, Q5, I like everything about icts,Q6, it helps me to find the relevant info about my course Q7, I think everything is okay about ict
Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-176, Q1, lack of sufficient computers, to cater for everyone, Q2, it helps with research & communication, Q3, lacks of funds, Q4, research & communication, Q5, advertisements,Q6, unlimited info Q7,
Demographics: ,Undergrad,22-25 yrs,average seg, Male

ID-178, Q1, sometimes the computer lab is overcrowded or computer are not working, Q2, internet helps me a lot, Q3, the price are high for internet use & they are always full, Q4, I use internet most of the time, Q5, ict has been very helpful too & I only use it maybe once a month or two, Q6, different internet site Q7, smooth running computers

Demographics: Setswana, Postgrad, 22-25 yrs, low seg, Male

ID-181, Q1, , Q2, , Q3, I stay in a disadvantaged area, Q4, , Q5, info is always at my finger tip if I know how to access it, Q6, access info via internet Q7, no

Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-184, Q1, computers, Q2, computers, Q3, money for going to internet cafes, Q4, my mobile phone, Q5, finding info that I want is so difficult, Q6, gives excess info about certain matters of the course Q7, icts for studying should be introduced to students at a very young age

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-186, Q1, there is shortage of computers & problems with internet but its not that bad cause the students are the one's destroying the computers, Q2, the fact that people aren't allowed to play games in the computers & send sms. It saves time & the securities helps, Q3, many people don't have computers & have access to them. They cannot afford them so we leave to share, Q4, I have a desktop computer. But the problem is with internet, Q5, the fact that I have to type, Q6, I can save my info, get some other info over the internet Q7, n/a

Demographics: Zulu, Undergrad, <22 yrs, low seg, Female

ID-193, Q1, internet, Q2, internet, Q3, no money to pay for the internet café even internet, Q4, location, Q5, its quite fast & saves time rather going through a million books that at times don't give you relevant info, Q6, how easy it is to access it hence in most cases of books for eg, one don't always find the relevant books:- our library for essential learning Q7, its best to make it more easy by increasing our location of finding it (we not fortunate student to have our own computers) because at times the computer lab is so full making our assignment a bit difficult so if that can be sorted, learning wi

Demographics: Sotho, <22 yrs, average seg, Male

ID-201, Q1, half of the computers in the lab are occupied, while the other half are not working, Q2, it helps in terms of assignments & info, Q3, I have to pay a certain amount of money if I want to use internet, Q4, nothing, Q5, , Q6, I can make notes for myself by searching the internet Q7, I think it is okay, it helps in making assignments

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Male

ID-202, Q1, when there are lots of students inside the lab, all computers occupied, Q2, to come early on the lab & I know most students, so they give me a chance to use a computer when they do not need it most, Q3, I pay to log in, so sometimes I need to use it but not have enough money go & pay for access, Q4, I budget money if I have little, ask for it from parents & people closer to me (friends & family), Q5, info about thinks that are not accurate, not updated, Q6, make studying easier & improve my learning Q7, make me able to make rational decisions & shows ways that are available (career) through which I may choose to undertake

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-217, Q1, the thing that makes it hard is if there are many people in the computer lab & I have to queue up to use the computer, Q2, the thing that helps me is being a student on campus & being able to get access to icts to help me with learning, Q3, its basically money cause I usually have to pay a certain amount to receive access to the icts, Q4, its having money to gain access & knowing people who have computers, Q5, it is a person can depend too much on using icts & not even use their own mind to think & study from books, Q6, I f I cannot find any info or journals from the library, I consult my computer which does help me learn & make my studying easier Q7, icts should be used for studying but not that much cause a person might be so dependent on the computer that they do not want to go out there & find info from books

Demographics: English, Undergrad, <22 yrs, average seg, Male

ID-228, Q1, limited number of computers, Q2, , Q3, expenses, Q4, n/a, Q5, , Q6, Q7,

Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-230, Q1, sometimes some computers do not respond when switched on due to internal network failure. Sometimes one can go back if the normal working computers are all occupied by other users, Q2, , Q3, the cost (charges) for the services are quite much for me, Q4, , Q5, playing computer based

games,Q6, exploring the computer system Q7, just wish to comment the university for making computers easily accessible in labs. I would just wish to ask the persons responsible for IT at the university to work on the other computers that do not function properly

Demographics: ,Undergrad,, high seg, Female

ID-238, Q1, when the lab is not opened on weekends eg sundays & then you find that there's lots of work which needs to be accomplished before due date. The lab on Saturday closes very early which makes it hard to finish work on time, Q2, the individuals who monitor the operation of computers at the computer lab, Q3, as an individual it costs a lot of money to access the computers at the internet café, Q4, none, Q5, n/a,Q6, being able to acquire the necessary info I need & being able to use software such as msword, powerpoint, excel & internet Q7, none

Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-239, Q1, less number of pc's on campus, Q2, when there's unoccupied pc in the lab, Q3, financial difficulty, Q4, being financially viable, Q5, pornography pop-outs,Q6, info Q7,

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-241, Q1, there are a lot of students therefore we cannot all of us use the icts on campus. I think if it is possible for our campus to make faculty computer, Q2, It helps a lot, Q3, I live in a village, therefore there's no much technology like at school. But I do have an access because mothabeng & phola are not far from megacity, Q4, internet cafes at town & megacity I only spend R10.00 to go there, Q5, ,Q6, Q7,

Demographics: Setswana,Undergrad,22-25 yrs, low seg, Female

ID-253, Q1, computer labs are full & besides it's a very small place for a campus with more than five thousand students, Q2, , Q3, transportation & lack of funds, Q4, , Q5, it is great. It makes your work easy,Q6, searching for info which is vital & educational Q7,

Demographics: English,Undergrad,22-25 yrs,, Male

ID-262, Q1, sometimes during the holidays or when computer centres are closed for tests (booked for tests or exams). As a historically disenfranchised student I only depend on general computer centres because I don't have a laptop or a computer at home, Q2, I did a computer module cs my undergraduate degree, Q3, we do not have computer centres of internet café in the rural areas where I come from. I only access computer during schooling days, Q4, nothing really because even our post office doesn't have computers or internet for public use. We do not have libraries where we can access internet, Q5, playing games, music,Q6, internet info. Typing my assignment or research work. Getting new online info about my research topics or assignment. Preparing for lectures & tutorials Q7, make them accessible for the historically disadvantaged communities in rural areas. Offer them in the languages they'll understand. Open a student ict club in our universities esp historically black universities

Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-264, Q1, besides the fact that most of the time at least 60% of the computers aren't in good working condition, its always condensed, stuffy & disorganised, Q2, I still to find out, Q3, no computer at home internet cafes are too expensive, Q4, n/a, Q5, nothing,Q6, its fast & straight to the point Q7, please increase the number of working computers which are accessible on campus

Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-269, Q1, sometimes the computers are fully booked, sometimes not working, Q2, my student card, Q3, I don't have a computer & also internet cafes are expensive for me, Q4, n/a, Q5, none,Q6, everything is valuable, without the use of icts learning will not be learning. Everything is in the computers Q7, the university to increase the number of computers so that they can be accessible to all of us. The university to build another computer lab because the current one is too small to accommodate all of us

Demographics: Setswana,Undergrad,, low seg,

ID-418, Q1, There are no time tables for formal classes in ICTs, Q2, Is to be the first one when the ICTs opens in the morning, Q3, very expensive, Q4, Internet access, Q5, Sometime,Q6, you forget to do other important things Q7, No

Demographics: Setswana,Postgrad,<22 yrs, low seg, Male

ID-424, Q1, Computers : it is hard to get access them when the lab is full, Q2, To wait until people leave for class or home, Q3, It is expensive to go to internet café and it is difficult for me to go and ask someone (a friend) to use his computer., Q4, nothing, Q5, nothing,Q6, To format a document Q7, It is

very helpful

Demographics: Sotho,Undergrad,,,

ID-445, Q1, labs, Q2, clear singages, Q3, Distance/payment method, Q4, All available, Q5, Excellent 21st century skills,Q6, Easier, smarter faster Q7, Cost of internet, the speed extremely slow. Lack of manifaillure, particularly timelines

Demographics: ,Undergrad,22-25 yrs,average seg, Male

ID-480, Q1, Large number students in this computers you have a while the computers available on campus arent that many. The institution must buy more computers to solve this crisis as it is setting way out of proportion., Q2, I rely mostly on the internet to complete mt work though it is costly here as we pay per hour and the fee is really high compared to other universities, Q3, Internet, it is difficult to find in certain internet shops, Q4, Honestly speaking, the internet, Q5, ,Q6, That it helps to improve learning and surely make studying easier Q7, ? It has changed the way we learn

Demographics: Xhosa,Undergrad,,average seg, Female

ID-481, Q1, Shortage of computers on campus, Q2, , Q3, Its expensive to go to internet cafes and my home library does not have computers yet, Q4, , Q5, When I have to go through information that is irrelevant before giving me what I want. It takes time,Q6, Helps me a lot when I am doing my assignments Q7, Please, add the number of computers at varsity

Demographics: Sotho,Undergrad,<22 yrs,average seg, Male

ID-534, Q1, There are too many other people, so sometimes you cant get to a computer, Q2, Some labs are open 24 hours, Q3, Cant always afford everything, Q4, I have my own computer, Q5, nothing in particular,Q6, Theres a lot more information Q7,

Demographics: Afrikaans,Undergrad,22-25 yrs,average seg, Female

ID-759, Q1, , Q2, PCs are well situated, Q3, internet; 3G is expensive, Q4, wireless network, Q5, time consuming,Q6, large amounts of info Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-762, Q1, Because we make a line first before we access computers, the computers are not enough for us because we are many, more than the available computers in my faculty, Q2, Is to stay by patieny waiting for one who is going and I get computer, in terms of internet some computers have no internet so if I need internet I have to ask somebody who is finished using the internet and computer to give me the computer, Q3, , Q4, , Q5, Playing games, watching videos that are not valucle or helpless, listening to music there in computer, searching for useless pictures such as people who are not wearing,Q6, Searching for the topic that I heard in the lecture time and I print out so so that I can read on my own, search for assignments Q7, No

Demographics: Xhosa,Undergrad,26-42 yrs, high seg, Female

ID-787, Q1, computers are very limited and poor technical services, Q2, faculty structure, Q3, internet it is very expensive, Q4, location is a visiaity, Q5, watching movies,Q6, academic staff Q7, No

Demographics: Other South African language,Undergrad,<22 yrs,average seg, Male

ID-798, Q1, At times most machines in the labs are down or have no internet plus we have to queue for more than hour to get a proper computer as they are not enough to cater for the whole school even the same case in the faculty computers, Q2, There are lab sessions per week organised by the faculty so that's when we can maximise and there are also extra hours where we can freely access during the day if the lab is not used for lectures, Q3, you would need to visit an internet café and you have to pay which means time is limited by money, Q4, my phone, Q5, research is made easier and we able to compare different sources of information on different websites,Q6, its exactly what the world needs Q7,

Demographics: ,Undergrad,<22 yrs, high seg, Male

ID-801, Q1, Our faculty does not have a computer lab therefore we have to use the library lab and we wait on the line for almost or more than an hour to use the computer, Q2, When I need to type or print something I go to the students who have computers in their rooms and pay to type and print, when I do not have time to wait at the library, Q3, There are no internet cafes around where I live, therefore I do not have access to the internet, because the computer that I use (laptop) does not have internet, Q4, In order for me to be able to access internet I have to go to another town, I have to take a taxi, Q5, nothing, I think ICTs are very helpful in learning,Q6, The notes that I find on the internet are much more simpler and factual Q7,

Demographics: Xhosa,Undergrad,22-25 yrs, high seg, Female

ID-822, Q1, My department - communication does not have a lab nor computers but yet we are expected to type out numerous assignments and research on the internet. We have to queue up in the library for hours before we get a computer and only limited to 2 h, Q2, I have a good friend with a laptop computer so if I want to use the internet we walk to the library to use one of the few internet/intranet cables if they are free, Q3, If I don't have money to surf the net then I cant go to the internet café until I find money, Q4, , Q5, I don't like it when I don't retrieve relevant information and when the internet is too slow or the computer freezes and I loose all the information, Q6, You don't always have to confront your lectures as you can get most answers online, data processing is faster and effective in terms of spell check in word and also calculation of numbers as in microsdot excel. Q7, Its hard to access ICTs in Alice, very hard and any assistance is welcome and long overdue
Demographics: English, Undergrad,,,

ID-877, Q1, We don't have enough computers and you have to stand in the queue for +-2hrs so that you can have access and you may find that the computer are not working properly and some don't have enough hardware like keyboard or mouse, Q2, , Q3, I have to travel for 30 kilometers and pay ten rands for the taxi fare and after that I still have to pay 10 rands for 30 minutes using the internet, Q4, , Q5, , Q6, I sometimes get valuable information Q7, No
Demographics: Xhosa, Undergrad, 26-42 yrs, low seg, Male

ID-883, Q1, As I've said we only have one lab (Library lab) to access to ICTS. Unfortunately, even the Library lab has very limited or few computers to accommodate almost all of us., Q2, nothing! I have to wait in these long queues at the library. Most of the time you will stand for two hours to get a computer and that also depends if that computer has internet. We really suffering!, Q3, Where I come from, there are few internet cafe shops and those are expensive., Q4, Actually, I so not use the internet, but preferably I use other components of the computer because it's much cheaper than the internet., Q5, , Q6, Q7,
Demographics: , Undergrad,,,

ID-917, Q1, Before using the computer you have to get a lab card and the computers are not enough so we have to wait in line for a longer period for other students to finish so that we can get lab cards and get in the engen lab., Q2, computers, Q3, we pay for it and it is expensive, Q4, I can get someone to type my project without worrying about waiting in a line in the library., Q5, , Q6, Searching information on the internet and typing home work. Q7, It limited
Demographics: Xhosa, Undergrad,, average seg, Female

ID-926, Q1, Long ques and few numbers of computers that we have access to., Q2, Not to attend some of the classes so that I can get there early to use up the software before time., Q3, The area that we are living in is not advanced very much (location), Q4, I usually make phone calls to these that are having the access., Q5, Competitions, Q6, Make studying easier Q7, No
Demographics: , Undergrad, <22 yrs, average seg, Male

ID-938, Q1, The time is limited and we are about 300 students who are using the lab with only 48 computers., Q2, I usually being helped by my friends, Q3, Because I pay a lot of money and we are many to access the computer, Q4, I do it on my own in a computer and internet aswell, Q5, Chating and not teaching about mostly this pandemic decrease (AIDS)., Q6, Existing internet and research programs Q7, Well if they can help me maybe with other pc's so that I can also help others.
Demographics: Zulu,, <22 yrs, average seg, Male

ID-968, Q1, There are not enough computers but so many students. Postgraduate students have limited access and there is so little of them compared to undergraduate. Our priorities are not the same. Some people misuse this previledge by plating computer gam, Q2, , Q3, There is no public library in Alice. The only time when I have access to a computer is when I am at home., Q4, My mothers 3G phone, Q5, We don't get enough credits for using internet references for assignment, irrespective of how effective we present the acquired data. This may not seem relevent here but its something that has been picking my brain., Q6, ICT is like a personal tutor/mentor because you can get clarity an almost everything you need. Q7, We (university of Fort Hare) need upgrade our programmes. Eg get XP
Demographics: Xhosa, Postgrad,, high seg, Male

ID-971, Q1, There are few computers with a very large number of students. You wait on a queue for +- 45 minutes before you have access, and when finally is your turn, you have a class., Q2, All you have to do is wait or schudule until you are free and as a result everything is delayed. Even projector are few, as I hear lecturers saying that they do not have it now, as someone was using it. Therefore, I assume there is only one proj, Q3, Especially, internet is because I have to pay for a connection of at

a café still have to pay minutes, Q4, Ask for money and pay at the internet café, Q5, ICTs are very important, Q6, Communication is easy. Assignments easily done. Information retrieved easily. Clear information during lectures when projected Q7, ICTs should be used more effectively, therefore, there should be more access to them.

Demographics: Sotho, Undergrad, high seg, Female

ID-976, Q1, long queues at the desk, Q2, Patience and the fact that I sometimes use my phone or a friend's computer, Q3, It means I have to go into town to access a computer which takes up too much of my time and money, Q4, My 3G phone has GPRS so I can get access to the net even though it's expensive, Q5, You can't exactly ask an ICT for an answer and sometimes through search engines you can get answers that are not exactly accurate, Q6, Improves studying habits and makes it easier to learn. It is also possible to access journals and books that you otherwise would not find or buy at a library or shop Q7, I wish that there were more computers for everyone at university and we would get more time than the two hours allocated to us at the current and present moment

Demographics: Undergrad, <22 yrs, high seg, Male

ID-1017, Q1, Even though there are two labs it is far from enough for the number of pupils at the varsity and the computers are slow or not working, Q2, I work part time at the varsity and if you want a computer at the computer labs you either come early to varsity or stay late when people are not there, Q3, Internet cafes are expensive. And don't have my personal own pc., Q4, work and friends, Q5, Sometimes it's time consuming because it's slow and sometimes it takes so long before you find what you are looking for., Q6, It brings the information to you, and gives you a good understanding Q7, No

Demographics: English, <22 yrs, high seg, Male

ID-1072, Q1, I think the university servers sometimes and during peak hours fail to effectively handle the load passing through it., Q2, Up - grading of the university servers so that it can effectively handle the current load and also we need more bandwidth, Q3, Personally expensive to run using phone (3G) as modem, Q4, Less controls make the connection and access easier and faster but risky., Q5, Can be time consuming if you lack self discipline. Not good health wise, Q6, Effective learning. Convenience and time saving because you can use web directories and virtual libraries. Can get information from any time span even the most recent. Q7, Strong parental guidance to our younger sisters. More user training.

Demographics: Undergrad, <22 yrs, high seg, Male

ID-1087, Q1, Sometimes there is too much congestion at the computer labs because there are more students than computers especially the law students face difficulties because they don't have their own faculty computer labs, Q2, computers and the internet, Q3, it is not hard, Q4, The fact that when using public computers you have to pay thus there are fewer people and no congestion, Q5, N/A, Q6, Areas for research Q7, N/A

Demographics: Undergrad, <22 yrs, average seg, Male

ID-1138, Q1, too many students occupying the computer lab, Q2, peers & consultants at computer labs, Q3, don't have access to a computer. Internet is costly, Q4, being able to get access to a computer via the post office, Q5, I hardly use them that often, Q6, visiting sites that better explain the work studied eg google search Q7, no

Demographics: Setswana, Undergrad, 22-25 yrs, average seg, Male

ID-1141, Q1, , Q2, , Q3, because there's nowhere I can get access on the computer, mostly the internet café are expensive, Q4, n/a, Q5, , Q6, Q7,

Demographics: Other South African language, Undergrad, 22-25 yrs, average seg, Female

ID-1156, Q1, because sometimes a lot of students attend to computers at the same time & whenever I want to go & use a computer, the computer lab is full, Q2, I get a lot of info especially when we have an assignment to do, then I'll use the internet which provides info, Q3, where I live there are no computers you can use for your own problems, Q4, n/a, Q5, nothing so far, Q6, makes things more understandable Q7, none, only that there are a lot of students using computers & making it harder for the ones who want to submit assignments or tutorials at that time

Demographics: Setswana, Undergrad, 26-42 yrs, high seg, Female

ID-1157, Q1, there are too many students & too few computers to work on. Assignments/quiz take some time to complete & therefore each student takes long on the pc he/she works on, Q2, to go to a lab where you are only allowed to access web content. Because too many students check their emails & download things that takes time, they take forever to get to a computer. & then you are left with no other option but to wait, Q3, I have my own pc without internet access. I have to use my cellphone if I

want to go on the internet & that is very expensive, Q4, to do projects & assignment in the comfort of my own home, Q5, if internet are slow or waiting to use the internet, Q6, it is very valuable to me, because it is accessible anywhere I go & even if I'm sick I can access it from home Q7, please make computers more available to students & maybe negotiate with cellphone companies like vodacom for cheaper rates for students

Demographics: English, Undergrad, <22 yrs, average seg, Female

ID-1181, Q1, large amounts of students make use of this facility on campus & places are sometimes limited in labs. We also have a small 'free cap' to download (30mb) from the internet & costs of going over this cap is high, Q2, the fact that we have adsl lines in the comfort of our rooms, Q3, n/a, Q4, having my own laptop, fast lines, Q5, nothing, I enjoy using icts, Q6, always in contact with lectures, flow of info is much better & accessibility of range of course is much wider & easier Q7, it is a great asset to studying

Demographics: , Postgrad, <22 yrs, high seg, Female

ID-1231, Q1, , Q2, the fact that I live on campus, Q3, , Q4, I have one at home. Cellphone with gprs, Q5, very slow network downloading. Ufs has expensive data rates compared with other universities eg nwu, Q6, makes completion & handing in of assignments easier Q7,

Demographics: Afrikaans, Undergrad, 26-42 yrs, average seg, Male

ID-1234, Q1, too few computers, Q2, n/a, Q3, expensive, Q4, n/a, Q5, its interesting, Q6, simpler & easier Q7, n/a

Demographics: Other South African language, 22-25 yrs, low seg, Male

ID-1314, Q1, few computers available during assignment durations, Q2, wait for others & come later afternoon, Q3, cant afford one of the moment, lazy to go to internet cafés, Q4, honestly to go or use computer off campus, Q5, , Q6, Q7,

Demographics: Sotho, Undergrad, 22-25 yrs, high seg, Male

ID-1325, Q1, nothing, Q2, , Q3, cost of internet, Q4, laptop at internet café, Q5, good, Q6, time consumption decreased Q7, none

Demographics: Zulu, 22-25 yrs, low seg, Male

ID-1327, Q1, when the switches are off or when its packed eg assignment time, Q2, people that works there, Q3, they are far, not accessible, also very expensive, Q4, , Q5, chatting! Other people are not serious out there, Q6, browsing through the internet & finding info Q7,

Demographics: Sotho, Undergrad, 22-25 yrs, average seg, Male

ID-1346, Q1, the times during weekends, Q2, I stay on campus & can access the icts easily, Q3, the money required to access the icts, Q4, I know people who own them, Q5, chatting with strangers on the web, Q6, self-test tutorials online. Class notes not received in class. Old test/exam paper in preparing for upcoming tests/exams Q7, no

Demographics: Sotho, <22 yrs, low seg, Female

ID-1357, Q1, just when there are an influx of people, the internet is slow which is time consuming. When I have a break in between lectures, Q2, there are two venues the library (consists of two levels) & the central computer lab, Q3, I have to pay to use the internet as public icts are either slow in terms of internet or either fully occupied, Q4, , Q5, some info on lectures are accessible via powerpoint presentation which makes ability to access info easier, Q6, access to info is much easier Q7, it should be made more accessible outside campus, through cheaper & quicker access

Demographics: Afrikaans, Undergrad, <22 yrs, average seg, Female

ID-1429, Q1, students are many on the computers are not many, so its hard to access in campus, Q2, computers are very helpful in terms of the internet, Q3, some of us don't have computers off campus. It makes it hard to access off campus, Q4, I cant use computer off campus because I don't have one, Q5, its really helpful, it is not waste of time, Q6, the internet helps me a lot it makes things much easier Q7, I need my own computer so that I can use off campus because its hard for me to use it off campus

Demographics: Sotho, Undergrad, <22 yrs, average seg, Male

ID-1504, Q1, irregular opening times, Q2, the easy way in which they are dispersed around the campus, Q3, finance, Q4, , Q5, , Q6, Q7,

Demographics: Xhosa, Undergrad, 22-25 yrs, low seg, Male

ID-1551, Q1, sometimes the labs are full & you cant get access for a long time, Q2, you get to do & learn a lot from it & internet helps you find the relevant info to do assignments & tasks, Q3, it is hard to access internet off campus because its expensive & sometimes you don't have a person to connect you to the internet & the fact that you need a telephone & cellphones don't usually have internet, Q4, computers help me to type my assignments & to print them (when you've got a printer). The location helps me because I don't have to wait in line to be assisted I just do what I want when I want to, Q5, Q6, Q7,

Demographics: Xhosa,Undergrad,, low seg, Male

ID-1577, Q1, My time limit im campus, Q2, My novell password, Q3, financial status/situation, Q4, , Q5, It complicates things at times,Q6, improves my learning, I guess Q7, No

Demographics: Afrikaans,Undergrad,<22 yrs, low seg, Male

ID-1590, Q1, I can always access it. In other words nothing makes it hard, Q2, , Q3, You have to pay certain amount of money to use, Q4, , Q5, waste of time,Q6, Find more information ie google Q7, I hardly use ICTs for purposes of my studies if this happens, its very seldom

Demographics: Xhosa,Postgrad,, low seg, Male

ID-1634, Q1, A lot of effort to drive to campus just to use the internet, Q2, available, Q3, expensive, Q4, Cellphone - 3G, Q5, Effort,Q6, Nothing Q7, No

Demographics: ,Postgrad,<22 yrs, low seg, Male

ID-1636, Q1, Nothing makes it hard to access ICT, Q2, Computer, Q3, It hard because one has to pay before access can be provided, Q4, Internet, Q5, I like everything about it,Q6, google Q7, They are very helpful especially when one is doing research

Demographics: Sotho,Undergrad,22-25 yrs, low seg, Male

ID-1702, Q1, They amount of work one has to deal with and the roads we pass everyday to and from campus, Q2, My student card actually helps with the entrance in the library and to the ICTs on campus, Q3, There are not many computer shops near where I live and as a result its impossible to use ICTs off campus, Q4, Nothing really helps because I don't even use a better phone (internet enabled phone), Q5, Its difficult to use for first time,Q6, The ICTs is the simplest way of accessing information and especially academically which in most case pleases as students Q7, Cant there be more ICTs available to us, students living outside campus? Because this could really assist most people with their studies

Demographics: Setswana,Undergrad,22-25 yrs,average seg, Female

ID-1710, Q1, The distance between the lab and my peers, Q2, Labs, Q3, dial up and broadband are expensive, Q4, The personal computer at home, Q5, When the network fails, we are at a disadvantage,Q6, It prepares students for the workplace Q7, N/A

Demographics: Afrikaans,Undergrad,22-25 yrs,, Male

ID-1713, Q1, Distance and costs involved, Q2, Computers, internet, WebCT, KoviesKat, Q3, Cost and accessibility (internet café capacity), Q4, Computers, cellphones, Q5, Simplicity,Q6, Information - faster Q7, It must be expanded

Demographics: Sotho,Undergrad,,average seg, Female

ID-1714, Q1, It is always easy to have access or to computers in the campus, Q2, computers and internet, Q3, It is hard to get access to computers in the township because of poverty, Q4, computers at the internet café, Q5, It wastes time,Q6, make studying easier Q7, No

Demographics: Sotho,Undergrad,<22 yrs, low seg, Female

ID-1729, Q1, The new software they put on the computers is difficult to use, Q2, Open worlds for me, Q3, location is far, Q4, can use it after 10h00 pm, Q5, Its difficult if you don't have a printer, and the fact that you have to pay 3 day in advance to print something totally sucks,Q6, It really helps me Q7, Look at bit for statement about printing

Demographics: Afrikaans,,22-25 yrs, high seg, Female

ID-1749, Q1, when there are no computers available for usage due to crowd, Q2, internet, Q3, Internet café means R15 per 30min you spend doing your work, Q4, internet, Q5, Sometimes I cant print out my tutorial questions to do at home since I have no internet connection off campus,Q6, easily accessible info not a touch of a button Q7, Would be nice to have a connection or schools internet connection at home to do or push assignment at home at anytime like those staying on campus

Demographics: Other South African language,Undergrad,<22 yrs,average seg, Female

ID-1777, Q1, Cost, it is so expensive in accessing to the lab, Q2, Low the cost, Q3, No, Q4, , Q5, Too expensive, Q6, Essential for life Q7, Make it cheaper. Same guys mostly go to visit china and study there, they accessing internet there.

Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-1801, Q1, Too many people, too little computers, Q2, Are able to get access to internet easily, Q3, expensive, Q4, can use it when I want, don't have to wait for a computer, Q5, When you cant access the internet due to time-cuts and the slow working time of pc's, Q6, can get ppl slides that I need for course Q7, no

Demographics: Afrikaans,Undergrad,,average seg, Male

ID-1836, Q1, Because I only use it only when I have time to don't really have much spare time, Q2, , Q3, The computers that are wear to the place to have are very expensive, Q4, none, Q5, none, Q6, going on some site for info. Q7, No

Demographics: Sotho,,<22 yrs,average seg, Female

ID-1837, Q1, The fact that the labs are closed at certain time and there are a lot of students like me who don't own Pc/laptop so most of the time the lab is full., Q2, Using a friends laptop and being in a practical class of there is not much work to be done, Q3, I live in campus, Q4, , Q5, , Q6, Allow large group learning, passes information relevantly Q7, Having a laptop a personal computer in ones room is of great advantage when it comes to accessing of ? Valuable

Demographics: Sotho,Undergrad,22-25 yrs, high seg, Female

ID-1847, Q1, Sometimes not internet. Lab rules and time given for use of computer, Q2, computers, Q3, Time given for computer use and short and money paid is expensive, Q4, Nothing helps me as there is a scarcity of internet café, Q5, , Q6, It is easy to search information at an immediate effect without place to place, and it is easy to work with computers because it communicates with a user Q7, Working with computers saves time, space, stress and keeps us in contact globally through information that we get from internet. They make life easier since they process information with higher speed than people

Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-1857, Q1, Software, because it is english, Q2, internet, Q3, Internet, because I don't have internet in my place, Q4, My friend has ADSL, Q5, I don't know, because I didn't use it for long time, Q6, The same as above Q7, the same as above

Demographics: ,Undergrad,<22 yrs, high seg, Male

ID-1864, Q1, It isnt big enough, there arent enough computers, Q2, The computer labs are central, Q3, Its expensive, Q4, , Q5, Have to have access to a computer, Q6, Save time, learn skills Q7,

Demographics: English,Undergrad,<22 yrs,average seg, Male

ID-1876, Q1, There is nothing that makes it hard for me to access ICTs on my campus. Because our labs are well equipped., Q2, Internet, certain softwares, Q3, Because I don't have my own computer and it is expensive to use the internet more especially when visiting overseas websites, Q4, computers in public library and the internet in the post office and the internet café, Q5, I don't like visiting those websites that does not give me useful information about my courses, more especially when im using the internet as part of my learning, Q6, Visiting websites like yahoo, google etc. gives extra information about my courses Q7, When im off campus it becomes difficult for me to use ICTs for studying. Because I live in a small toon called Memel, where we have only one library. Sometimes when I go there I find all computers being occupied by other people. So it si very d

Demographics: Sotho,Undergrad,26-42 yrs,average seg, Female

ID-1877, Q1, If there is no internet on the campus, Q2, Computers, internet labs are always open, Q3, I don't have computer at home and since I have explained in A13 that on the internet café is expensive and on the library, they give me only on hour, Q4, Public holiday and internet shops, Q5, Slow internet, computers that have viruses because they damage disk eg floppy disk, flash disk, Q6, Online student companion tutorials quiz. Searching engines like yahoo. Answers.com etc Q7, no

Demographics: Sotho,Undergrad,22-25 yrs, low seg, Female

ID-1881, Q1, When the library or lab closes, I have no where else to access them, thus making my usage for assign etc. ?, Q2, , Q3, I don't have a personal computer so I have to go to my parents office and even so, they have internet, Q4, , Q5, Time constraints and being unable to seek help as there are no available assistants at times, Q6, Q7,

Demographics: Xhosa,,<22 yrs, low seg, Female

ID-1893, Q1, , Q2, I am able to access information easily, it helps me on my academic purposes and being in touch with my family and friends through emails, sms, Q3, I cant afford to pay at the internet café, Q4, , Q5, ,Q6, Q7,

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-1924, Q1, nothing, Q2, , Q3, internet is expensive, Q4, , Q5, expensive,Q6, projects, and typing Q7,

Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-2049, Q1, The internet is often very slow, because of the amount of students online at the lab, Q2, easy accessible and almost always available when at the lab, Q3, Its expensive to use at home, Q4, I don't need to go to campus, thus its less affort, Q5, Almost everything is of importance and value,Q6, Makes it more accessible and easy Q7,

Demographics: Afrikaans,,, high seg, Male

ID-2067, Q1, N/A, Q2, labs, Q3, do not posses a PC. Computers shops(internet cafes) are expensive and is also better to be on campus for computer use that go to a shop, Q4, , Q5, we havent use it,Q6, Q7,

Demographics: Setswana,Undergrad,<22 yrs, high seg, Female

ID-2071, Q1, It is a mission to organise access. (to get your student card activated), Q2, Don't ever use ICTs on campus, Q3, nothing, Q4, comfortable environment, Q5, It takes longer to find accurate information,Q6, It's a 'library' in my own home Q7, I only use a computer to type assignments and to find electronic journals (which is usually useless information because one has to pay for access to the better ones)

Demographics: English,,<22 yrs, low seg, Male

ID-2075, Q1, I don't find any difficulties to access ICTs, Q2, There are people who helps us in every computer lab, Q3, It is expensive to use the computer at the post office, Q4, I normally ask my brother to get me information I need from the internet at his work, Q5, Its accessable. Computer labs are always open,Q6, It saves time and safe money Q7, ICT are very important for studying. We use 50% of our time using ICTs

Demographics: Sotho,Undergrad,22-25 yrs,average seg, Male

ID-2091, Q1, , Q2, , Q3, Mostly it requires money to access internet on an internet café (mostly expensive), Q4, computer, Q5, ,Q6, Q7,

Demographics: Sotho,,<22 yrs,average seg, Female

ID-2113, Q1, It is very easy for me to a access computers on campus, Q2, Labs, Q3, Because of the internet, its very expensive to connect with your cellphone, Q4, internet, Q5, ,Q6, Q7, I honestly want to trust ICTs and I hope that people should stop putting rubbish in then, I just only wish that facts could be reliable

Demographics: Other South African language,Undergrad,, low seg, Female

ID-2134, Q1, Sometimes there are lots of students using the computers and then there arent any available to use, Q2, I can do my assignments which have to be typical and also do my powerpoint presentation, Q3, Its not available at home and the internet café are usually expensive because they charge you per minute, depending on what you came to also., Q4, Nothing cause I don't have access to ICT off campus, Q5, Sometimes students are able to access pornographic images and that's disgusting,Q6, It makes ones work a lot simpler because instead of coming to class to submit an assignment, you can just do it electronically Q7, No, at the moment there arent any

Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-2136, Q1, Long distance from where I stay (off-campus), Q2, Computer awareness skills I aquired about 2-4 years ago, Q3, (financial problems) I don't really have enough money to buy computers, Q4, Availability of friends computer, Q5, Cant think of one at the moment,Q6, Internet, when searching for info that is academically related Q7, There has to be more computer labs built on campus in order to accommodate all the students

Demographics: Sotho,Undergrad,22-25 yrs, low seg, Female

ID-2137, Q1, I don't really have the knowledge to access most of the ICTs on campus. The overall service of computer services on campus is in my view poor, Q2, It helps to have speech programmes installed on the computer and with that the assistance provided by the disabilities unit, Q3, I don't usually leave campus to use computers as it is difficult and there are not speech programmes on computers off campus, Q4, nothing, Q5, some speech programmes are not always available.

Dictionaries are not available to me,Q6, It helps me to hear information by making use of the speech programme seeing as same information was precisely only available to sighted people Q7,
Demographics: Afrikaans,Postgrad,22-25 yrs,average seg, Female

ID-2156, Q1, Slow network. Software problems, Q2, Availability, Q3, I have my own laptop, so that's not a problem. I try not to access the internet at home through my cellphone because then I pay for it. On campus I get free access as a personal member, Q4, Laptop - easy computers use anywhere. Internet through cellphone handy (but unreliable and expensive), Q5, Nothing. I think they should be used much more,Q6, As said earlier, they are used too little, so the question is not really relevant to me. I use my pc for assignments (typing + emailing) and research. So it makes it easier because I have my own, but most study material is handed out in hard copy Q7, Nothing I've not already said
Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-2158, Q1, The university of the Free State does not have enough pc's to accommodate the student population. The labs are sometimes full, internet is offline or they are constructing something, Q2, I work as an assistant researcher and therefore am able to use my office pc., Q3, Internet is very expensive for students to pay for themselves, Q4, I live alone, Q5, The internet can waste time as a lot of irrelevant information are included in searches. If your flash disk fails with all your info on it.,Q6, Internet researching. Accessibility of library on web. Q7,
Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Female

ID-2165, Q1, Sometimes to get to a open PC, Q2, The cheap access to the internet. And cheap printing, Q3, internet is expensive, Q4, the location, Q5, waste of time,Q6, make study easier Q7, No
Demographics: Afrikaans,Undergrad,22-25 yrs, low seg, Female

ID-2226, Q1, not enough place to accommodate everybody. Almost all centres allocated in one area. Centrally computer lab, Q2, computers are programmed to ones novell, Q3, time, difficult to find one, costly, Q4, friends, roommates, friends, family members, Q5, games, music,Q6, webct programmes, internet Q7, communication, course notes involved
Demographics: Sotho,Undergrad,<22 yrs, low seg, Male

ID-2270, Q1, They are sometime congested, especially the internet, the labs are not enough for 25 000 students, Q2, n/a, Q3, No money, Q4, n/a, Q5, n/a,Q6, Keeps me up to date with modern technology Q7, n/a
Demographics: ,Undergrad,<22 yrs,, Female

ID-2276, Q1, The internet is too slow and wastes time., Q2, There are enough computers for all, Q3, I can't access internet because it is a bit expensive, Q4, If I have money I am able to access internet., Q5, Most times it does help, but sometimes there is too much information from other countries. There are not enough South African websites,Q6, It takes little time to get information rather than going into the library Q7, In my university there are not enough internet connection
Demographics: Setswana,,<22 yrs, low seg, Male

ID-2281, Q1, can't really think of anything that makes it hard at all!, Q2, your student card gives you access to the facilities, Q3, despite having no personal computer where i'm staying, the internet cafes can be a bit costly, Q4, visiting a friend who has access to the internet is one option., Q5, if there's a power failure, you cannot continue with your assessment when the power returns,Q6, tutorial and homework questions are always uploaded, information prior to tests and exams, lecture notes and notices on notice boards are all really helpful. Q7,
Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-2333, Q1, Some there is queue at the internet, which makes it hard especially if you have to do research or assignments. When the server is down, Q2, lab assistants, Q3, It costs money in the internet café, which of course my budget can't cover, Q4, not applicable, Q5, none,Q6, It makes education more attractive Q7, They are great
Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-2344, Q1, When too many people flock to the labs it's difficult to access a work station., Q2, The lab assistants are usually helpful, Q3, It's usually expensive, Q4, , Q5, Sometimes the system is really messed up (e.g. when it's offline).,Q6, Improves learning Q7, no
Demographics: Zulu,Undergrad,, high seg, Female

ID-2355, Q1, If I am writing an exam, Q2, Get immediate information about my studies, Q3, sometimes I don't afford money to pay for internet café so that I can get access for computer, Q4, Internet because I am able to access everything related to my studies, Q5, nothing,Q6, It helps me

improve my knowledge about using computer Q7, Its wonderful and helpful
Demographics: Other South African language,Undergrad,22-25 yrs,average seg, Female

ID-2367, Q1, The ques!, Q2, Getting to school early to avoid ques., Q3, Where I live, access is expensive (internet) or just not existent., Q4, , Q5, The problems with access,Q6, Q7,
Demographics: Sotho,Undergrad,22-25 yrs, low seg, Male

ID-2374, Q1, The time because i stay away from campus and have lectures almost the whole day., Q2, In between lectures access and all the things available on the labs are valuable in my life especially my academics, Q3, internet and computers are paid for off campus since i dont have my own laptop.So if you dont have money you cant keep up with mails and important information, Q4, Nothing at all, Q5, staring too long at the computer and some websites having limited references and information,Q6, Everything it can do because i apply all that the computer can offer Q7, No all has been asked
Demographics: Sotho,Undergrad,26-42 yrs,average seg, Male

ID-2388, Q1, nothing just the lines are long, Q2, bieng a student, Q3, internet cafes are expensive nad theres not enough time, Q4, nothing, Q5, sometimes the server is slow and it takes up to much time. we also have to print lecture notes we can prove to be expensive becuase we are also expected to buy textbooks,Q6, convenient if u sick and u couldnt make it to class Q7,
Demographics: Sotho,Undergrad,<22 yrs, low seg, Male

ID-2426, Q1, , Q2, , Q3, expensive to go to an internet café which is far, Q4, , Q5, ,Q6, Q7,
Demographics: Setswana,Undergrad,22-25 yrs, low seg, Male

ID-2459, Q1, queues, Q2, quicker information access, less time consuming, Q3, internet café may not be available or may be too expensive, Q4, you get exposed to current info and trends, Q5, time is wasted waiting for server to respond,Q6, provides useful and relevant info Q7,
Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-2489, Q1, labs can be full or edulink connection very slow -becomes frustrating, Q2, , Q3, if I have no airtime-I cant access internet, Q4, , Q5, doesn't help grammer because it self-corrects it for you,Q6, time efficient, makes it easier to listen in class because notes will be made available. Q7, the server network need s major work on edulink to make it reliable and able to maintain and cope everything it claims to do.
Demographics: Zulu,,26-42 yrs, low seg, Male

ID-2531, Q1, the used passwords when changed, Q2, the assistants, Q3, the location I am based at, access is limited as well as having to finance it., Q4, subscribing for the internet, Q5, it is not always accessible,Q6, quick access when you finally get it and more information Q7, I think it is great.
Demographics: Setswana,Postgrad,22-25 yrs,average seg, Male

ID-2587, Q1, the only hard part at Wits, is the computer labs get so full at times, which makes access difficult and to log onto the internet takes long. System is slow somehow., Q2, well, going to the I/S class. Do your work quickly then go on the internet for the remaining time., Q3, off campus I have to pay to use the ICTS, Q4, , Q5, when the system is slow, it takes a lot of time to get info.,Q6, there's a whole lot of information available Q7,
Demographics: Zulu,Undergrad,22-25 yrs,average seg, Male

ID-2635, Q1, when the computer labs are full and everyone has submissions to do., Q2, the internet, Q3, the money that off campus computer shops charge, Q4, very ubiquitous here in Braamfontein-computer shops, internet most helpful, Q5, well, I can't find anything I don't like except that all computers have English that is American- irrelevant to us here.,Q6, the internet has an answer to most of my questions and has all services such as online dictionary and Thesaurus Q7,
Demographics: Xhosa,Postgrad,,, Male

ID-2641, Q1, nothing makes it hard as some labs are accessed 24/7, Q2, internet, Q3, do no have money to purchase access, Q4, none, Q5, low/incompetent servers, retards accessibility of info.,Q6, more relevant info. Enough info from international sources Q7, please lower costs, create free access for /at homes maybe 3 hours a month.
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-2680, Q1, access times to labs are limited, labs are used for trivial activities, and computers do not always work, Q2, card reader access control, walk-in access, Q3, sporadic access to internet, HIGH INTERNET COSTS!!!, Q4, owning my own laptop, Q5, amount of time needed to conduct a usable

online search(cutting through irrelevant information), technical obstacles - software difficulties, sporadic internet access,Q6, easy access to information, abundance of advice and choice of sources, mobility of access(cellphones) Q7, I regard ICTS as fundamental to studying, however, the most significant obstacle is the prohibitive costs and bureaucratic efficiencies associated with accessing the internet. I would attribute this primarily to Telkom!

Demographics: English,Undergrad,<22 yrs, low seg, Male

ID-2690, Q1, sometimes your student card might go missing, making it hard to get into libraries and other buildings with computer and internet facilities., Q2, information is easily accessible, although the computer runs/operates a tad bit slow, Q3, time and money, Q4, the information I require, Q5, the computers are slow,Q6, there is a lot of information you could get hold of Q7,

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-2709, Q1, , Q2, , Q3, money to buy internet, Q4, internet café and I have my own PC, Q5, ,Q6, Q7,

Demographics: ,Undergrad,,average seg, Male

ID-2710, Q1, nothing, only when there is a queue then I have a problem, Q2, find information, type my assignments and check email etc., Q3, I need money to connect to internet, Q4, I can type my assignments in my own time and practice for my computer lessons, Q5, when I can't find the information I am looking for because I don't know how to use the software,Q6, word processors, spreadsheets and internet Q7, they are very helpful and interesting

Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-2731, Q1, not hard, Q2, student at the institution (wits) and 24 hours availability, Q3, mostly uses internet café for internet usage, which is expensive. Where I stay we share 2 computers with 40 other girls so only 1 hour is allowed for a person to use the computer, Q4, the fact that the computer is in the building although no internet is allowed to be connected to it and I (one) hour to 1(one) person, Q5, internet has a lot of information,Q6, Q7, I'm okay

Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-2736, Q1, there are long queues normally, so the waiting makes me spend less time on the computer, or leave without going on in the first place, Q2, , Q3, my computer doesn't have internet and I rarely use cellphone GPRS because it wastes my airtime, Q4, , Q5, ,Q6, Q7,

Demographics: Sotho,Undergrad,22-25 yrs, high seg, Male

ID-2738, Q1, people (fellow students) are always working or chatting on the computer so getting access to the computer is always hard, Q2, there are computer labs on campus and assistance is always offered by relevant people, Q3, it is not that hard, I just need to pay for all the expenses, Q4, I use a 3G cellphone, Q5, it is not very reliable, as computer crashes all the time, so we lose information all the time,Q6, it is a fast way of getting work done and easier Q7, everyone needs access to this technology, thus it is a battle to accommodate everyone, thus some people end up suffering by not getting access

Demographics: Setswana,Postgrad,<22 yrs, high seg, Male

ID-2747, Q1, I don't live on campus, Q2, , Q3, it costs money and time, Q4, , Q5, ,Q6, access lecture notes, email lecturers and find course reading Q7,

Demographics: Zulu,Undergrad,<22 yrs, low seg, Male

ID-2748, Q1, the line of students waiting to use the computers, as there are quite a few of us who need to work on them, Q2, knowing where to go and at what time, usually where there will be fewer students, Q3, I don't own a computer, and I usually do not have the money to go to an internet café, Q4, money, Q5, ,Q6, information relevant to my course on the net. Typing essays, saves time and checks my spelling and other errors Q7,

Demographics: Zulu,Undergrad,, low seg, Male

ID-2784, Q1, shortages of computer labs, Q2, , Q3, my home is in rural areas, so there are no internet cafes, Q4, I must go to town if I want to access internet, Q5, a lot of junk material on the internet,Q6, the possibility to access volumes of information on the net Q7,

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-2847, Q1, software, Q2, internet, Q3, finances(charges) for use, Q4, location, very close to place I live, Q5, very convenient for my studies/research,Q6, Q7,

Demographics: Sotho,Postgrad,26-42 yrs, low seg, Female

ID-2866, Q1, it is relatively easy, only a problem when the internet connection settings are incorrect and we need to edit them, Q2, the knowledge of it of other students, Q3, it is expensive to go on the internet, so it is difficult to research for projects, also a very slow connection and poor memory space, Q4, it is at my home so is easy to get hold of, Q5, internet connection is costly so online sites are difficult to get to off campus. It is time consuming to download illustrations if done over the top. Some lectures are difficult to download, Q6, being able to download and print lecture notes before lectures to prepare beforehand and be able to add own extra info during the lecture. Extra diagrams and summary styles (tables and flow diagrams/graphs) help with studying for exams. Q7, I think ICTs are extremely helpful, especially for studying for tests and finding scientific journals/papers to reference to in projects

Demographics: English, Undergrad, <22 yrs, average seg, Female

ID-2871, Q1, there is always a long line to wait for ICTs, and being a full time student who does practical work off campus. I don't have a chance to wait for it, Q2, , Q3, my siblings also need to do projects and research and use the computer, my dad also uses it for work, so often we all need it at the same time, Q4, I can use the computer at home late at night, when no one else needs it, Q5, lecturers rely too much in power point sometimes-without explaining and teaching sufficiently. WebCT-it is new so I can't really judge properly-but so far the server is always down, lecturers rely on it and I am at a disadvantage as I can't access, Q6, it opens many research opportunities, and gives valuable information. When used properly it can add to lectures inputs Q7,

Demographics: English, Undergrad, <22 yrs, high seg, Male

ID-2877, Q1, the computer lab is full most of the time and sometimes the internet is very slow, which is hard for me when I need to check my mail, Q2, I get to type my assignments, check my e-mail, use the internet for information and extra references, Q3, don't really know where to start and sometimes browsing the internet is expensive in some locations, Q4, I get to check my mail even if I'm not on campus, Q5, wasting your time searching for it, but getting nowhere at all, Q6, the internet and my cellphone, can communicate with lecturers and friends Q7,

Demographics: Sotho, Undergrad, 22-25 yrs, high seg, Male

ID-2882, Q1, the computers are limited, we need more computers in the campus, Q2, the computers, Q3, because I have to ask my friend everytime and when I have to go to the internet café I need cash, Q4, I ask a friend if I may use his computer, Q5, , Q6, looking for information in the internet for my studies especially essays Q7,

Demographics: Other South African language, Undergrad, 26-42 yrs, low seg, Female

ID-2906, Q1, we are too many and computers are too few, so we have to queue, Q2, , Q3, to find or use ICTs off campus requires money, Q4, , Q5, going through career jobs, Q6, searching for information needed Q7, it helps a lot for personal and academic information

Demographics: Xhosa, Undergrad, 22-25 yrs, low seg, Male

ID-2907, Q1, the queues can be very long and sometimes there is not much time to use ICTs because the library closes at 4h30, Q2, , Q3, internet café are expensive and I am not able to use them and the people who have computers always have excuses of why it is impossible to use their computers, Q4, , Q5, I believe it is a good thing to use. However, the problem is that I have limited knowledge of using ICTs, Q6, for example finding notes via ICTs that way when one is in class one can concentrate on listening to the lecturer instead of writing and listening Q7, I wish I had enough access to ICTs because I live at res and sometimes it is dangerous to walk alone to the main campus to use ICTs

Demographics: Zulu, , high seg, Female

ID-2922, Q1, we're a lot of students and ICT facilities are limited. I'll request if donors can donate more as students face difficulties in queuing for computers., Q2, Being a student, a lot of research is required, so internet facilitates a lot of (can't make out word), Q3, It's expensive, pay more money for few minutes, end up not accomplishing what I was supposed to accomplish., Q4, none, Q5, I think ICTs sometimes create digital divide, especially for students who find it hard to access internet., Q6, How different websites help to explain teaching materials. Q7, Donate more computers so that students get computers without waiting long.

Demographics: Sotho, Undergrad, 26-42 yrs, high seg, Male

ID-2925, Q1, Have to pay for some computer labs. Can be quite noisy, Q2, , Q3, , Q4, internet connection is fast. Quiet and private, Q5, WebCT doesn't work!, Q6, Q7,

Demographics: English, Undergrad, 22-25 yrs, low seg, Female

ID-2940, Q1, Lack of facilities, i.e computers., Q2, Internet, Q3, Don't have one at home, too costly., Q4, computers, Q5, ,Q6, Researching Q7,
Demographics: English,Undergrad,26-42 yrs, low seg, Male

ID-2969, Q1, The faculty computer lab always has problems allowing one to log on, either denying ones username or something else. The central computer lab is always crowded as a result of the above., Q2, The convenience of the central lab is great and the assistants there are pretty helpful., Q3, I have access to a computer but not the internet because I'm not connected. Internet café's charge high prices for the use of internet., Q4, My laptop is always with me and internet cafes are all over., Q5, A lot of SRCemails that crowd my mail box, most of it irrelevant,Q6, The internet's very helpful. Q7, Easy logging on, i.e. usernames
Demographics: Xhosa,,, low seg, Female

ID-3022, Q1, sometimes the labs are very full, Q2, , Q3, Internet cafes cost a lot so most of the time its hard to access, Q4, my knowledge of computers through BIS, Q5, ,Q6, Q7,
Demographics: Other South African language,Undergrad,22-25 yrs, high seg, Female

ID-3035, Q1, When everybody is busy with projects or something major, Q2, To choose the non busy time, Q3, having to pay for it, we don't have money, Q4, , Q5, none,Q6, Add more to your knowledge. Q7,
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3039, Q1, the congestion I.e too many students trying to access computers at the same time., Q2, The assistants help with problems. The tutors assigned by the faculty. The information I gather from the use of ICT's on campus., Q3, its costly, Q4, , Q5, Not always as specific as you need them to be. Information is broad (vague).,Q6, Sometimes offer solutions to problems you might be experiencing. Help to save valuable info onto devices which you would forget otherwise. Q7,
Demographics: Zulu,Undergrad,26-42 yrs, low seg, Female

ID-3040, Q1, doesn't operate 24 hours, you can only use computer before 4pm everyday. Very bad, Q2, Time management, abd knowing why should I use a computer at that time!?2, Q3, I don't like paying for internet?, Q4, , Q5, ,Q6, easy to use, fast information if needed Q7,
Demographics: Other South African language,Postgrad,<22 yrs, low seg, Male

ID-3043, Q1, There are too many people also trying to access ICT's so we have to wait., Q2, computers and internet, Q3, It's expensive, Q4, computers and internet, Q5, Its hard to search on the internet for what you want you have to go through a lot of stuff first.,Q6, learn new information Q7,
Demographics: English,,22-25 yrs,average seg, Male

ID-3083, Q1, The fact that there are not enough computers and most people don't have access to it at home, you find that space is limited., Q2, The fact that they are open 24 hours a day, there is always an assistant on stand by in a yellow cap. I live in res so I can go to the computer labs when I want to., Q3, its expensive, Q4, the internet café in town, it is fully equipped, Q5, pringing information or notes is expensive,Q6, more information is available than what is given in class. Since things on the internet andf WebCT notes are more specific and simplified learning becomes easier. Q7,
Demographics: Setswana,Undergrad,<22 yrs,average seg, Female

ID-3085, Q1, At times there are so many students at school who want to access ICTs and thus it is hard to get whatever work you need to do., Q2, , Q3, internet cafes are quite expensive., Q4, I have internet in my phone, Q5, ,Q6, Q7,
Demographics: ,Undergrad,<22 yrs,average seg, Female

ID-3089, Q1, The time that we are given is too short and computers are few, Q2, You can use computers to update your curriculum vitae, Q3, When you need to use it user maybe is still busy, Q4, To the office of the owner I usually go to it, Q5, It is not easy to own it because they are e.pensive,Q6, Make to access information fast Q7, I may suggest that there must be many labs so that everyone who want to use it and cannot disturbed
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3091, Q1, Computers are not many and we are not given many hours to use computers and it is not always open in the labs, Q2, , Q3, No person I know has a computer and I don't have money to pay for the internet café, Q4, , Q5, Not easy to own and it is not easy to communicate with other people because they don't have access,Q6, get more information you need Q7, There must be long hours given to students to have access to computers
Demographics: Xhosa,,22-25 yrs,average seg, Male

ID-3093, Q1, There is only one computer access for all the students on campus, for all facilities, so everytime we have assignments, the lab is so easily full almost all the time, Q2, The lab is opened Monday to Friday, and is accessed on hourly basis. If it is full in another hour, then you book another hour., Q3, It is sometime difficult and straining to always ask permission from a friend or neighbour to use his/her computer., Q4, Sometimes, my mother asks on my behalf from some of her friends, that she works with, Q5, The use of internet is very difficult and strenuous at times as the sites are not applicable and assessable at times. It is also hard to print some information from the lab and lastly, these new memory sticks that have replaced floppy disks, ar,Q6, The use of sites like Dti and the news at SABC 3 and labour.net.com, help me keep ahead on my studies. I am able to read ahead, and sometimes challenge my lecturers on subject matters that I read about. Q7, My institution was not being helpful at all as far as ICTs are concerned, there is poor system support personnel, hard to access internet round the clock, lecturers hardly prepare lessons with the use of laptops and other forms that some instit

Demographics: Xhosa,Undergrad,,average seg, Female

ID-3095, Q1, computers are so few, fully booked, Q2, It helps me in doing of research, Q3, No one in the family own it, Q4, , Q5, Not easy to own it because cost are high,Q6, Able to communicate with people through out the world Q7, ICTs are so e.pensive

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3105, Q1, Few computers and limited time to use computer, Q2, Wait on lines for other student to finish work, which is one hour, Q3, Its costly, there are travelling e.penses attached in order to reach these centres and also cost for using computer, Q4, nothing, Q5, ,Q6, Q7,

Demographics: Xhosa,,26-42 yrs, low seg, Male

ID-3106, Q1, there are many students who are using computers sometimes you do not even set a computer to make your assignment., Q2, N/A, Q3, we live in rural areas so we are not e.posed to computers e.cept when we at school., Q4, N/A, Q5, N/A,Q6, make studying easier Q7, N/A

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3107, Q1, Because computers are few, so the time that you have to work is limited. Every body wants his or her access in ICTs on those few computers, and other computers do not have internet so it is difficult to access., Q2, Is to wake up early in the morning and go to the lab. While others are in classes because I attend part time., Q3, Because I don't have computer and there is know one I know who have it and I don't have monty to go to those places that they do business on ICTs, Q4, There is know help, Q5, N/A,Q6, By searching the information about the book and the author there off and other more Q7, yes ICTs help me to always be up to date with all of what is happening around the world and to solve problem that I come across. To be able to fit in many position concerning to work

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3113, Q1, , Q2, It helps with internet, Q3, I do not have the enough funds, Q4, , Q5, It does not give the enough information,Q6, It helps to communicate with people through the country Q7,

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3115, Q1, computers are limited numbers, Q2, Booking the slot suitable for me in my faculty comp. lab, Q3, You have to pay for internet access and its e.pensive, Q4, Pay for the hours for going to spend in the computer, Q5, some pages that can not be displayed when searching,Q6, it gives recent information Q7, computers need to be services, be in good condition

Demographics: Xhosa,,22-25 yrs,average seg, Male

ID-3116, Q1, Computers are few in relation to students so one has to book in advance in order to access them and somecomputers don't have internet so its quite difficult to access computers, Q2, People usually are few in the morning than in noon so I usually wave up early in the morning book that is the opportunity that I use to help me access the computers with hassle free, Q3, You have to pay a lot of money transport cost and internet time for e.ample R35/h. time consumed during from and to computers, Q4, Im computer literate (semi). Passion driven I think those things contribute a lot to me., Q5, A lot of time you have to spend surfing the net and help you not at end of the day,Q6, The research, it make it easy especially assignment Q7, No

Demographics: Xhosa,,22-25 yrs, low seg, Male

ID-3122, Q1, They're very far and you have to book and use them for an hour and give a chance to other students, Q2, It usually ask other students at RES, now have computers and then pay them for borrowing me to use their computers, Q3, when I do not have money to pay, it makes it difficult, Q4, , Q5, There arent any on particular,Q6, They make studying really easier Q7, I wish that we'd have

more access of that in this school because I think that it would really make studying for all of us really easy.

Demographics: Xhosa,,22-25 yrs, low seg, Male

ID-3126, Q1, Computers are few on campus and student are many so its always not easy to get a space or a chance on the internet, Q2, I have to book early in order to get access to the computer on campus, Q3, Sometimes it happens that I don't have money for transport, Q4, Its easy hence few people use it, Q5, N/A,Q6, internet Q7, N/A

Demographics: Sotho,,22-25 yrs,average seg, Female

ID-3129, Q1, because we do not have enough computers, Q2, time table, Q3, There is no internet because we are staying at the rural areas, Q4, I pay for using internet café, Q5, unwelcomed messages,Q6, By getting more information Q7, lack of compute, shortage of labs

Demographics: Xhosa,Undergrad,22-25 yrs, high seg, Female

ID-3131, Q1, lack of computer labs, Q2, schedule time, Q3, No computers in rural areas where I live, Q4, I pay to internet café, Q5, unwelcomed messages,Q6, getting more information Q7, lack of computer labs, shortage of computers, less skills to use ICTs

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-3149, Q1, It helps. Through internet we can search information., Q2, , Q3, No one I know owns a internet café and no cash to pay., Q4, No I don't have help., Q5, It's not easy to own one because they cost a lot.,Q6, Improve my skills, eg speed. Find a job through internet. Chat with friends through MTN sms's & e-mail. Q7, ICTs must be available anywhere at all times.

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3150, Q1, , Q2, It helps me to do my assignments and CV's., Q3, I don't have the money to pay internet café., Q4, There is no community or internet help., Q5, They are costive.,Q6, It improve my learning. Q7, There must be more ICTs and the internet whenever we want to use it.

Demographics: Xhosa,Undergrad,<22 yrs,average seg, Male

ID-3152, Q1, Our library is very small and has a small number of computer. Soemtimes they give the students trouble by not working. The time that is allocated is very limited., Q2, I have to wait until other students finish up at the library which is very irritating. There is limited internet access and sometimes the internet is not running., Q3, Off campus internet service providers are e.pensive., Q4, I have to save my pocket money for internet cafés., Q5, web-based games. Chatting with friends out of country.,Q6, browsing Q7, no

Demographics: Xhosa,Undergrad,, low seg, Female

ID-3161, Q1, , Q2, in computer you can type your assignments and CV. It helps for that. Sometimes it helps for the reasearch but sometimes there is no help., Q3, No one have a computer in my family and I have no money t go to internet café., Q4, , Q5, It is not easy to own them.,Q6, able to access information on time. You can communicate with other people. Q7,

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Female

ID-3162, Q1, They are few, Q2, They help me to reasearch the information., Q3, we don't ave money to pay., Q4, No community libraries that I know., Q5, It is not easy to communicate with others because they don't have it.,Q6, It improve my learning. Q7,

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3163, Q1, There is no internet and computer labs, Q2, schedule time, Q3, There are no computers in rural areas, Q4, No money to go to the internet café, Q5, By sending an SMS on the internet,Q6, Search information about employment Q7,

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Female

ID-3171, Q1, Lack of computer lab, Q2, Time table in labs, Q3, Im living in the rural areas, Q4, Don't have money, Q5, Some of the messages when you open the internet,Q6, It is very important for the assignment information Q7, more computers. Internet

Demographics: Xhosa,,average seg, Male

ID-3172, Q1, Lack of computer labs, Q2, , Q3, There is no internet access, Q4, I do not do it because I don't have money, Q5, ,Q6, Make studying easier Q7, Knowledge, information

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3176, Q1, Its not 24 hours lab, Q2, Help my friends, Q3, Im living in the rural areas, Q4, No help when im on campus, Q5, Sometime it helps not it most easy to access,Q6, Make learn fast Q7, There

must be always a task that until be given student to do
Demographics: Xhosa,Undergrad,26-42 yrs, high seg, Male

ID-3180, Q1, There is no internet at this campus and the labs are not enough., Q2, Timetable, Q3, There are no computers at home because im living in rural areas, where there is no computers., Q4, I've got to pay so I don't use it because there is not enough money., Q5, N/A,Q6, Ability to learn skills and knowledge Q7, I need training. I don't know anything about computers.
Demographics: Xhosa,Undergrad,, low seg, Male

ID-3188, Q1, There are few computer in the lab, Q2, Helps by friend who know the computer, Q3, Because I cant pay for the internet, Q4, I cant not find help, Q5, I like using ICTs,Q6, They assist in assignment and presentation in information Q7, They should have make sure that each course have it own lab eg human resources, management
Demographics: Zulu,Undergrad,<22 yrs,average seg, Male

ID-3191, Q1, The time we are given to stay in computer labs, Q2, , Q3, There is no internet offer in remote areas where I stay, Q4, I don't get any help, Q5, It is not easy to access them,Q6, Improve communication and learning skills Q7, They have to increase computers and allow every person to enter at any time
Demographics: Xhosa,Undergrad,26-42 yrs,average seg, Female

ID-3192, Q1, Because the computers are limited and sometimes it closed the whole day, Q2, I get help from the lab assistants, Q3, It is because I cannot afford to pay for internet, Q4, When im off campus I don't get any help from the community, Q5, Sometimes it does not provide enough information, also not easy to access,Q6, They make learning to be simple. They assist in gathering information Q7, I can advise the institution to increase the labs and they should open the labs 24 hours
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3199, Q1, because the computers are few in the lab, Q2, , Q3, because I live in the rural areas so there is no electricity., Q4, None, Q5, Like an e-mail.,Q6, In order to improve my knowledge. Q7,
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3200, Q1, Computers, Q2, The timetable when I have lectures., Q3, I'm in the rural areas, Q4, No computers in rural areas, Q5, unnecessary information with e-mails.,Q6, To know what type of softwares being used, making presentations. Q7, There should be access in ICT in this university.
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3203, Q1, , Q2, , Q3, No one have a computer in my community, Q4, , Q5, ,Q6, Q7,
Demographics: Xhosa,,<22 yrs, low seg, Female

ID-3204, Q1, The securities that are responsible for opening laboritories are not using the powers as mentioned, Q2, The SI leaders are making it easy for us, Q3, no money to pay in internet cafes, Q4, N/A, Q5, nothing is waste of time with ICTs, e.cept that they should be improved,Q6, you obtain more general information required by a student Q7, There must be 24hr labs, available to students
Demographics: Zulu,Undergrad,22-25 yrs, high seg,

ID-3236, Q1, Because computer labs are few, Q2, It helps by internet research and gathering of data, Q3, It is because we live in rural areas and we do not have money for ICT, Q4, There are now community library in my location, Q5, They are not easily accessible and costly,Q6, It helps to find information quickly Q7, I would like all the student to have access to the computer
Demographics: Xhosa,,<22 yrs, low seg, Male

ID-3240, Q1, Since computers are few and there is no internet, Q2, It helps me to do my assignment, Q3, No one owns the computer in my family friends, Q4, There is no community library in my area, Q5, It is not easy to own them because they are most costly,Q6, Very easy to communicate with other students and get more knowledge Q7, Internet must be available at anytime
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3241, Q1, few computers with internet, Q2, internet, Q3, No means to pay to cafes, Q4, No help, Q5, Its not easy to own them, because they cost,Q6, They help to link us with our friends throughout the country Q7, Only if the internet would be found in all the computers, everytime
Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-3242, Q1, There are limited number of computers, Q2, It helps to gather information in time, Q3, No one owns it in my family, Q4, I don't have any, Q5, N/A,Q6, Makes studying easier / able to

communicate with people Q7, The availability of internet anytime. The number of computers. The increase in number of overhead projectors

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3243, Q1, Computers are few while there are many students, Q2, It helps to browse on the internet, Q3, We do not have money to buy a computer. I do not know any person with a computer, Q4, I do not get any help, Q5, They are costly,Q6, It makes me understand and communicate with other students Q7, It makes it easy to access information

Demographics: Xhosa,Undergrad,26-42 yrs, low seg, Male

ID-3244, Q1, , Q2, Using computers to do my assignment, Q3, I do not have money to pay internet café, Q4, There is no community library in my area, Q5, It is not easy to use ICTs because it is valuable,Q6, Make studying easier Q7,

Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3245, Q1, Few ICTs, Q2, Gather information on time, Q3, No access to computers in rural areas, Q4, No community libraries, Q5, Its not easy to use the computers, not acquired skills,Q6, It helps you updated with many things Q7,

Demographics: Xhosa,,26-42 yrs,, Female

ID-3247, Q1, Shortage of computers, Q2, Time - table, Q3, They are no computers in our home, Q4, I don't have money, Q5, unwelcomed message, and waste of time,Q6, Get information and knowledge Q7, Get information and knowledge

Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3251, Q1, Generally lack of resources, about internet its always unavailable, Q2, Library lab, Q3, Location mostly, Q4, Nothing. Mainly because I cannot afford internet cafes, Q5, Not easy to understand. Difficult terms to use. Tend to forget easily,Q6, Open your mind and make you(Me) realise that I know very little and that I have a lot to learn Q7, Unfortunately the labs that are available at my school are for certain students, therefore not available for every learner to access them. It's a pity because at the end of the day we all need these skills and we all have the right to them

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3253, Q1, allocation is few, Q2, Able to gather information, Q3, No one own it in the family and the internet face are e.pensive, Q4, No help, Q5, not easy to own,Q6, Able to access information Q7, improve security

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-3254, Q1, Because computer are few, Q2, It helps me to research on internet, Q3, Because we don't have money for internet, Q4, I have no access to ICTs off campus, Q5, Because they are costly,Q6, ICTs improves the standard of learning Q7, To have more access to use ICTs as often ?

Demographics: Xhosa,,<22 yrs,average seg, Male

ID-3266, Q1, Firstly, I have never learn to use ICTs in my life because of financial hardships. Secondly, it is/was not included in my cause for me to learning and lastly, I have no access to anywhere to use it, Q2, I use to send my work/assignments to those who have ICTs and pay for them, Q3, I pay money of which it is difficult, because sometimes I don't have enough, Q4, I use to pay money to the owners, as they have ICTs business, Q5, ,Q6, Q7, I wish we all as the students must have access to ICTs equally and must be part of our courses as we will need it in the work place. And it would be easier if it is included in our courses as fees are concerned

Demographics: Zulu,Undergrad,22-25 yrs,average seg, Female

ID-3267, Q1, Firstly, people who are lecturing computers don't do practicas, so that makes it hard for us to access them because or less/know knowledge, Q2, Some other students who have better understanding about computers, Q3, The main reason is that I don't have a computer and secondly I don't have access to those who have computers, thirdly I don't have a friend with computer, Q4, none, Q5, If I had full information about computers, I would list as many as possible but because I don't know a lot about computers so there is nothing I don't like in what I know about computers,Q6, Searching information, and also typing your assignments or work which you were given by your lecture Q7, All I can say is if only I can be taught well about computers, it will be a great procedure to me, because it is hard for us to have access in computers while we don't know a lot about them

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-3269, Q1, There are no conducive faculties - no enough labratories. Our faculties have no labratories for computers. It's a horrible situation under which we are studying, Q2, Seldom access

internet in the library or medical library. I am always chased out in medical library cos I am not a med student, Q3, When I am not in the campus I am at home in rural areas. We don't have even electricity there, Q4, Nothing , absolutely nothing, Q5, ,Q6, Q7,
Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-3287, Q1, There are less computers and many users, Q2, Book a computer in time, Q3, Monthly rental fee (internet), Q4, My mother by paying my internet fees, Q5, nothing,Q6, developing skills Q7, University must have adequate computer and internet access
Demographics: Xhosa,Undergrad,,average seg, Male

ID-3290, Q1, , Q2, Other students helps me, Q3, Internet costly in my area, Q4, No, Q5, Too e.pensive,Q6, Make studying easier Q7, There must be increase in computer labs so that will get an access to ICTs
Demographics: Xhosa,Undergrad,,average seg, Male

ID-3291, Q1, Limited number of computers, Q2, No help at all, Q3, Because it is e.pensive, Q4, No help at all, Q5, Not easy to access,Q6, Gather information, make professional documents Q7, Increase a number of computer labs; provide course for ICTs
Demographics: Xhosa,,22-25 yrs, low seg, Male

ID-3292, Q1, Lack of computers, Q2, internet, Q3, There are no internet cafes where I live, Q4, I do not get any assistance, Q5, It is not easy to access,Q6, They assist in gathering information Q7, WSU must increase the number of computers
Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Female

ID-3297, Q1, you will find computers fully booked, Q2, It helps me in terms of assignments and research, Q3, , Q4, No one owns computer in the family, Q5, they are not easy to own because they are costly,Q6, They improve learning Q7,
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3298, Q1, We have only one hour to access, each student use computer for one hour everyday, Q2, They are widely available we research or the ? But it is not assisting because of time, Q3, I don't have money to pay the internet café sometimes, Q4, To the community library sometimes, Q5, It is difficult to own them because they are e.pensive.,Q6, To find information, to chat with people through out the world Q7, To add the labs in our campus, because the computers are few and we do not have enough time to access information
Demographics: Other South African language,Undergrad,<22 yrs,average seg, Female

ID-3299, Q1, It is because there are lack of computers, Q2, Go to class to use computers during computer classes. Because there is no time and lack of computers, I usually, Q3, There are no computer, internet \, software because we live in rural areas, Q4, Not at all because I don't have money to pay for internet, Q5, Not valuable,Q6, Make studying easier, improve my learning Q7, Internet, powerpoint
Demographics: Xhosa,Undergrad,26-42 yrs,average seg, Male

ID-3300, Q1, It is because of lack of computers, Q2, Its time table, Q3, because there is no computer in my location, Q4, No money for doing that, Q5, not valuable,Q6, make studying easier Q7, internet
Demographics: Xhosa,Undergrad,26-42 yrs, high seg, Female

ID-3302, Q1, We do not have an access. We do not have enough labs and computers. Lackage of internet in our computers, Q2, In labs we are assisted by time table which require us to use it only for an hour, Q3, Sometimes it because of the cost when you as a person you have to rent it, Q4, I do not use it because of finance, Q5, To discount of sms, competitions and funeral insurance polices,Q6, Research information on google, chat with other ppl Q7, It will nice for all institution to have their website we they can share information and give each other information about their institution or courses which are related. To increase the website of information to be obtain
Demographics: Xhosa,Postgrad,26-42 yrs, high seg, Female

ID-3309, Q1, lack of computers, Q2, I don't get help at all, Q3, I live in a rural area & there are no internet café, Q4, there is no help I get when I'm off campus, Q5, its not easy to use them, they are very e.pensive,Q6, they are very helpful to make student to easily understand Q7, institution must try increase the number of computer labs in school
Demographics: Xhosa,Postgrad,22-25 yrs,average seg, Male

ID-3314, Q1, limited number of computers, Q2, help by friends, Q3, expensive internet, Q4, family gathering, Q5, not easy to access, Q6, improve communication Q7, make it easy to access so they improve our skills

Demographics: Xhosa, Undergrad, 22-25 yrs, average seg, Female

ID-3315, Q1, there is no time management, Q2, my friends who work is library assistant, Q3, because I can't afford price of the internet café, Q4, there's no help for me, Q5, there is no easy access because they are very expensive, Q6, they assist in gathering info Q7, they should provide a 24 hour lab internet serving

Demographics: Xhosa, Undergrad, 22-25 yrs, average seg, Male

ID-3319, Q1, , Q2, there is time table, Q3, there is no computer because I'm living in rural area, Q4, I don't do it, Q5, some advertising like casino: pigs pots, Q6, to get better info. To get certain skills & knowledge Q7,

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-3325, Q1, there are limited computers, no internet & limited time to access icts, Q2, the scheduled time, Q3, there is no development in my location - no computers in my rural area, Q4, visit internet café in town, Q5, problems with network, Q6, icts makes communication easy Q7,

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Female

ID-3343, Q1, because the time that is set to spend at computer lab is short & it is not enough. Also we don't have access to internet because I don't have a password, Q2, because I can be able to get used to the computer in terms of typing & using other programmes so that I can be able to have knowledge when I am on the field, Q3, because I am living in rural area where there are no computers at all, Q4, I go to town in order to access a computer, Q5, I don't have them, Q6, the skill & knowledge that I get from using icts Q7, I think that the time that is set for using computers at computer lab must expand so that the rate of conflict between students & assistants can slow down

Demographics: Xhosa, Undergrad, 22-25 yrs, high seg, Male

ID-3346, Q1, they open for few hours, Q2, they acquire the relevant info, Q3, nothing, Q4, every info I find relevant is valuable, Q5, nothing, Q6, they convert vague concepts into clearer Q7, I would like one day to create my own & make it as simple as possible, so as to accommodate the poorly disadvantaged students

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3347, Q1, few of computers, Q2, it helps us to research, Q3, there is no money for buy it, Q4, there is no community library, Q5, it is not easy to own it, Q6, it helps to get info from other countries Q7,

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3348, Q1, they are few, Q2, there is no help at all, Q3, no money to do that, Q4, there is no community library, Q5, it is not easy to own, Q6, improve your communication skills Q7, improvement of computers & printers

Demographics: Xhosa, Undergrad, 22-25 yrs, average seg, Male

ID-3349, Q1, computers are few, Q2, it helps to research, Q3, because I don't have money to pay for internet café, Q4, I don't have library in my community, Q5, it is difficult to communicate with other people because they don't have, Q6, improve my learning Q7,

Demographics: Xhosa, Undergrad, 26-42 yrs, high seg, Female

ID-3350, Q1, they are few, Q2, to be able to get info on time for assignments or cv, Q3, no one owns the computer I know in the family, Q4, no community library I know, Q5, they cost too much it is not easy to afford them, Q6, easy to access info & able to communicate with other people Q7, the price is not affordable at least they must reduce

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Male

ID-3351, Q1, computers are very few, Q2, it helps to research, Q3, because I don't have money to buy internet, Q4, , Q5, it is not easy to communicate to my friends because they don't have icts, Q6, improve my learning Q7,

Demographics: Xhosa, Undergrad, <22 yrs, high seg, Female

ID-3352, Q1, it is hard because the time is limited, Q2, it helps me because I update my cv. I also get more info, Q3, none of my friends, family own it & I don't have money to pay for it in internet café, Q4, no community centre uses computer in my place where I stay, Q5, it is not easy to own them because they are expensive & my friends & family don't have it so it difficult for more to communicate through

it,Q6, they improve my learning, I get more info I also do my assignment Q7, It is easy when I write assignment on computer. It also saves time ie its time consuming
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3361, Q1, Lack of computers and time, Q2, Labs, Q3, Payment in the computer cafeteria, Q4, Application for work or school, Q5, Don't help me at all,Q6, Make studying easier Q7, More training
Demographics: Xhosa,,22-25 yrs,, Male

ID-3378, Q1, Because there are very few computers, Q2, Is to book the computer first, that means I have to be as early as possible because the cue is long, Q3, Its because I have to pay for it, Q4, I ask people I know for help or to use their computers, Q5, The information can be too complicated,Q6, You get a lot of info Q7, At my school we don't have access to computers because they are few and some don't have internet
Demographics: Zulu,Postgrad,<22 yrs, low seg, Male

ID-3391, Q1, There is no computers and we don't have access in the computers, Q2, The scheduled time, Q3, because of the money for internet café, Q4, none, Q5, They are sometimes listing the things we don't want to know,Q6, Q7, No
Demographics: English,Undergrad,22-25 yrs, low seg, Female

ID-3392, Q1, Limited time to access the computers and also the computers are always broken, Q2, Scheduled time in a lab, Q3, Not much computers around my community, Q4, None, Q5, ,Q6, You receive information about everything Q7, If only there could be enough computers in each faculty, so that every student can have access to the computers anytime he/she wants. Ensure that the computers are efficient. Its frustrating to want to use a computer and be told that you don't
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3395, Q1, The computers are broken, Q2, , Q3, because we don't have computers in the rural locations, Q4, none, Q5, Unnecessary information that we don't need,Q6, Q7,
Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Female

ID-3413, Q1, The problem is that there are a few computers around the campus that actually provide the internet, so when student get the chance to search it is very crowded, Q2, It is easy if you are the first person in line for the computers. This is especially if you want to surf the net, Q3, This is because the owners don't want to share their computers with other students, Q4, It is going to internet café at town, where I have to pay, Q5, N/A,Q6, ICTs have lots of programmes to broaden your mind. You can also search for information you need for your work Q7, ICTs are very much helpful especially in this day and age, for communication to the rest of the world. It makes me to be knowledgeable
Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Female

ID-3417, Q1, There is no internet on our own time, also shortage of computers makes us not to reach the internet, Q2, Its scheduled time, Q3, No access on computers or internet because of living in rural areas., Q4, No money to do it, so it helpless, Q5, I don't know,Q6, It helps to improve skills of using computers Q7, I don't know
Demographics: Xhosa,,22-25 yrs, high seg, Male

ID-3421, Q1, In terms of internet, sometimes we don't have it in our computer labs [in our department] and our library lab is too small to accommodate us all., Q2, In our department we've got our own labs and the one in the library and also the general lab in the faculty., Q3, A large number of people that our public library has to serve and the community center is usually busy with its own tasks, Q4, A public library that we have in our community and also a community center, Q5, Internet dating and sites like cutecouples.com, they are waste of time and have a bad influence to learners more especially teenagers,Q6, Internet sites like google, yahoo etc. if you need information and is not available from the books in the library, you can search for another book that will give you all the information you need Q7, Using ICTs helps me a lot in my studies and also socially. I can not imagine what life would be in nowadays without using ICTs.
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3425, Q1, The number of computers, Q2, Internet, Q3, Location and money to pay for computers, Q4, N/A, Q5, The come and go of internet/network,Q6, Getting information that I needed everytime Q7, I think the lcts are very helpful especially to us (students) we are able to get information that we want
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3430, Q1, We hardly gain access to internet. Our passwords are not activated which makes it difficult for us to login. If we manage to login by default there would be no internet. Computers are locked sometimes and therefore that makes the number of func, Q2, Lab technician helps unlock computers for us. Sometimes I get access to a computer to finish up my assignments from a friend in the residence, Q3, Most of the time I happen to be in need of a computer and my friend would be busy working on it. When im off campus I know that im not going to access internet because there is not any., Q4, I finish my assignments on the given. I stress and practice on things or programmes I did not clearly understand in lecture, Q5, Chatrooms, Mi.it,Q6, sir whats that word supposed to be, i cant see it Q7, Nothing other than to say lcts makes our learning more easy than anyone could e.pect
Demographics: Xhosa,,22-25 yrs, low seg, Female

ID-3434, Q1, There are few computers in the labs and the even the labs are limited. There is no access to the labs after hours whereas during school hours we have to leave the lab after our class without finishing our tasks, Q2, I get access through computers, internet, library and labs, Q3, I have to pay in the internet café so limits me to access it when I want to., Q4, It is difficult for me to get access to ICTs off campus especially in my community because of lack of resources such as computer, internet, software and location, Q5, Things that are not valable that can be a waste of time and don't help you at all,Q6, Things that improve your learning, things that make studying easier and really help Q7, none
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3438, Q1, Using computers lab becomes hard sometimes because we are too many and resources/facilities are few. It is a previlage for me and most of all an advantage to use lectures offices because I get to spend lot of hours surfing internet, Q2, computers, Q3, I pay for the internet, and I have to make sure that I leave the computer, when my time e.pires; sometimes im leaving the computer with not much information I wanted to serve, Q4, computers, Q5, Everything I access on ICT is helpful,Q6, Makes my studies easier; and simplifies my knowledge Q7, All in one, it is so helpful; and I wish the information is daily updated
Demographics: Sotho,Undergrad,<22 yrs, low seg, Female

ID-3439, Q1, Computers in my faculty are almost not working, labs have no computers, no internet, Q2, nothing, Q3, Off campus I have no access to computers - any type of computer. There is no access to computers in my community, Q4, Nothing, Q5, nothing,Q6, Internet, to find information about various things that are happening all over the world. Microsoft word, e.cel, powerpoint to do my e.ercises. Smsing to my friends about learning issues Q7, It is very difficult for me to use ICTs, yes my lab has no working computers. In the library lab sometimes computers may have no internet
Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Male

ID-3440, Q1, Come and go of internet, Q2, internet, Q3, Computers are in townships and I am staying in rural areas and I usual do not have money to pay for computers, Q4, N/A, Q5, N/A,Q6, News on internet Q7, No
Demographics: Xhosa,Postgrad,<22 yrs,average seg, Male

ID-3445, Q1, Computer authorities, have just given student 1 hour practice without library assistant to guide operators/ users, and, there is also a low processing control processing unit format because of old computer models., Q2, Internet together with a compulsory computer literacy course offered, Q3, Location due to environmental and capital tribulations, Q4, , Q5, It is only selective to computer literate people (groups) affordable to well to do group of people. Defections by viruses. E.pensive to use,Q6, Easy to communicate with people, faster, accurate if information recorded correctly take large area. Save time Q7, Be introduce at all schools of learning starting from primary to higher levels of learning
Demographics: Xhosa,Undergrad,, low seg, Female

ID-3448, Q1, Computer labs open late for students who stay on campus and even if as a day student, I do get a computer during the day, there is no internet and most students don't want to hand over computers because they are too busy playing computer games, Q2, I usually sleep on campus if I urgently need access to a computer (ICT), Q3, There is not enough people who have ICT. In my family no-one owns a computer, Q4, I utilise the ICT that is on offer on campus, Q5, I usually use ICTs for course related assignment, so I cant really say what it is I don't like don't them,Q6, Refer to answer above Q7, N/A
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3454, Q1, Through shortage of computer labs and their schedule hrs, which they provide, Q2, Library has time-table and it does not help in some time through the shortage of scheduled time, Q3,

No internet and access to any computer school through living rural areas, Q4, I don't, because I have no money, Q5, Copying music and movies, Q6, good user and Q7, No. It must just keep on to improve education and uplift skills of students

Demographics: Xhosa,,22-25 yrs,average seg, Male

ID-3455, Q1, At campus we do not have access to computers, internet and even labs, we at times find systems down we even suffer during the time of typing assignments, Q2, , Q3, I live in Ibika and there are no community librarians or labs, Q4, I go to a friend and ask for help, because funds may be insufficient to go to an internet café, Q5, computer porn, Q6, Make learning easier - when we go to the field of work we will then be effective Q7, When we would have more access to the computers and have trainers to mentor us

Demographics: Xhosa,Undergrad,26-42 yrs, low seg, Female

ID-3459, Q1, Many classes depends on the same lab. Sometimes, we limited time to use computer internet in the library, Q2, Time table to go to the lab, Q3, Lack of computers outside the campus as well as electricity in rural areas, Q4, I am using my friend computer, Q5, When you get the information that you don't need, Q6, Help me to find information that is needed for my assignment. Help me to know many jobs Q7, We need more computers that are in good condition

Demographics: Xhosa,Undergrad,, low seg, Male

ID-3464, Q1, No time lack of computer labs, Q2, Time table, Q3, There is no internet because we are living in rural areas, Q4, We don't have the money to pay, Q5, Not access to the internet. Not having enough time, Q6, Help to study. Help to store information to the computer Q7,

Demographics: Xhosa,Undergrad,, high seg, Female

ID-3473, Q1, There are few computers with internet in the business faculty and there are usually many students in the library, Q2, Mostly the library, Q3, Finances to get one, Q4, The library, Q5, nothing, Q6, powerpoint, internet Q7,

Demographics: ,, high seg, Male

ID-3476, Q1, the computers are fully booked and it is difficult to access a computer in peak times (10am-3pm), Q2, There are labs open till 12pm-midnight, Q3, time and money, Q4, friends and family, Q5, easy to write messages information, Q6, information Q7, No

Demographics: English,Undergrad,,,

ID-3499, Q1, Its because there are not enough computers, Q2, Is to be patience, Q3, In my area there is no internet café, Q4, There is no help, Q5, Not easy for access, Q6, It improve communication Q7, I think there must be increase of general labs so that all student must have access

Demographics: Xhosa,Undergrad,, low seg, Female

ID-3503, Q1, Shortage of labs and it is not easy to access internet most of the time, Q2, Lab assistant, Q3, Around our places there are no computers unless you go to Town and pay certain amount, Q4, Nothing helps at all, Q5, none, Q6, Computers lately are the most valuable, quickest and easiest way of doing business or communication on these days Q7, The problem is on searching internet because it is not always available when we need it

Demographics: Xhosa,Postgrad,26-42 yrs,average seg, Female

ID-9, Q1, computers which don't work and a mass of students on the internet playing games or just browsing the net for fun, Q2, well, I have to say it helps me with my school essays using the net and googling a lot, Q3, insufficient funds to pay for the net, Q4, n/a, Q5, it gives me access to the world and to can research and get information and therefore conclude and make a judgement of myself in relation to the information I collected, Q6, doing essays is no longer stress to me I know I can rely on the internet Q7, well our school needs more computers and there must be lessons to help people who find it hard to use ict for personal use and for learning and research purposes

Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-67, Q1, nothing, Q2, labs, Q3, location, Q4, computers, Q5, don't know, Q6, internet & typing. I become more accurate & fast. I know more about the corporate world Q7, no

Demographics: Setswana,Undergrad,<22 yrs, high seg, Female

ID-79, Q1, internet & computer offlines, Q2, internet, Q3, location of the internet café or community computer lab, Q4, nothing, Q5, pornography, Q6, internet searching & presentations Q7, yes I would like icts to be accesible to many students because it helps a lot

Demographics: Setswana,Undergrad,,,

ID-102, Q1, the number of computers in the lab are not enough for all students to access at anytime, Q2, I need to sit in the computer lab for a long time and wait for someone to leave which usually takes forever, Q3, I do not have one at home therefore I need to ask to use the neighbours computer & the owner is usually on it, Q4, I sometimes need to miss classes so I can use my neighbours computer while she is at school, Q5, games, Q6, serving the internet eg google, wiki etc Q7, I would like to have access to my own computer that I can use all the time. I want to be an entrepreneur therefore having a pc will help

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-148, Q1, nothing, unless the power is down, Q2, it keeps me connected with my e-mails, do my work anytime between 9 & 9:30 in the evening, Q3, in townships, back from I come from, the rates are high than those in the city, Q4, I can stay in contact with people, manage my applications via online, Q5, nothing worth learning is useless, Q6, it prepares for the working environment Q7,

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Female

ID-216, Q1, , Q2, , Q3, I have no internet in the residence, Q4, the computer lab sometimes, Q5, I don't like people who come to computer lab to play games, Q6, makes studying easier. Makes writing assignments easier. Better communication with friends worldwide Q7, make more computers available for student use please

Demographics: , <22 yrs, average seg, Female

ID-271, Q1, , Q2, , Q3, , Q4, , Q5, playing games & funny things on the net, Q6, specifically learning Q7, my access to ICT for studying plays a very prominent role in my academic work & it does prepare me for future

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Female

ID-412, Q1, Lack of space sometimes in the labs, Q2, , Q3, , Q4, , Q5, Sometimes you waste a lot of time doing something that does not concern academics, Q6, It provides you with better information for studying Q7, You learn a lot, and you find yourself in a position whereby you know a lot about the world, if you know how to use a computer

Demographics: Xhosa, Undergrad, , ,

ID-474, Q1, Internet, Q2, Everything, Q3, Internet, Q4, , Q5, To communicate with important people/companies etc, Q6, Everything Q7, No

Demographics: Setswana, , , low seg, Female

ID-782, Q1, The number of computers is less than the number of students. It takes a long time for one to access a computer and it is limited to 2 hours per session, Q2, , Q3, lack of internet access which makes it impossible to research the web, Q4, location; there is more privacy and comfort at home, Q5, it sometimes takes a long time to access the relevant information on the internet, Q6, they expand the scope of learning and one is exposed to a variety of ideas from all over the world Q7,

Demographics: , Postgrad, <22 yrs, high seg, Female

ID-1162, Q1, software, Q2, internet, Q3, location, Q4, computers, Q5, games & making stupid mails, Q6, internet & quizzes Q7, makes us to communicate globally & improves economy

Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-1364, Q1, when computer is slow, Q2, when computer is fast, Q3, no computer, Q4, to go to internet café, Q5, it makes me to be equipped about what is happening around the world, Q6, it provides the reliable info, it doesn't make mistakes Q7,

Demographics: Zulu, Undergrad, <22 yrs, low seg, Male

ID-1444, Q1, limited number of computers available for students use, sometimes all the places (computer centres) are full, basically limited number of computers is much of a concern towards the access, Q2, computer & internet, Q3, sometimes the internet is offline or the computer is not working, Q4, computers, public library, Q5, it exposes me to new things & I become better or rather more advanced as to compare to my fellow students & some of my friends, Q6, it improves learning skills. Learning skills Q7, its great. Its practical

Demographics: Sotho, Postgrad, <22 yrs, average seg, Male

ID-1548, Q1, nothing, Q2, studying materials, Q3, because I don't have a computer, Q4, nothing, Q5, nothing, Q6, you are connected with global news Q7, no

Demographics: Sotho, Undergrad, 22-25 yrs, low seg, Male

ID-1550, Q1, nothing, it is never hard to access them on campus, Q2, what helps me most is the internet ie I can read newspapers online as well as do research, Q3, what makes it hard for me is that I often don't have money to pay for them. Whilst at campus it is charged to my tuition fees, which are paid by a bursary, Q4, n/a, Q5, nothing, I like everything about using them for learning, Q6, what I find valuable is that I always learn something new when I use them for learning Q7, yes, if only I can try to save up money so that I can buy myself a computer & register it for internet usage, so that I can have access when I'm off campus

Demographics: Setswana, Undergrad, 22-25 yrs, low seg, Male

ID-1573, Q1, Overcrowded labs make it difficult, Q2, N/A, Q3, The population doesn't have access to them, Q4, N/A, Q5, Q6, Q7,

Demographics: Setswana, Postgrad, 26-42 yrs, low seg, Male

ID-1600, Q1, Because of the much limited access, Q2, Is the much computer available and friendly software, Q3, location is limiting access and payment is difficult., Q4, Transport that one uses to get there, Q5, one button can delete everything, Q6, Improve my skill a nuish heat Q7, Everyone can not only students need it

Demographics: Sotho,, 22-25 yrs, average seg, Male

ID-1762, Q1, The system is extremely slow, Q2, computers, Q3, Do not have internet outside campus, Q4, phone, Q5, nothing, Q6, It prepares an individual for the working environment Q7, none

Demographics: Other South African language,, <22 yrs, high seg, Female

ID-2133, Q1, congestion, Q2, The fact that I reside in a hostel, I go to the lab late at night when off campus are at home, Q3, My home town is not technologically progressed and I don't own a PC at home, Q4, , Q5, Sometimes one gets attracted to all sorts of activities on ICTs which are not academically related Sometimes one gets attracted to all sorts of activities on ICTs which are not academically related eg music, Q6, Easy source of information. Reduces geographical distance between communication Q7,

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Female

ID-2225, Q1, the fact that sometimes the computer labs are too full, Q2, labs & the fact that we are given 39mb yo use each month, Q3, we don't have a computer at home, Q4, community library but I don't usually go, Q5, I do not like having to type my assignments & everything before submitting it to the lecturer because I end up spending a lot of time in the computer lab when I could have been studying, Q6, it increases your knowledge of things, you get to know whats happening around campus & around the world Q7, no

Demographics: Sotho, Undergrad, 22-25 yrs, low seg, Male

ID-2227, Q1, computers, Q2, internet, Q3, , Q4, , Q5, computer not working after you have type assignment or essay & then the power goes off, Q6, improves my skills. Know more about whats going on around the world. Give solution to my research Q7, make printing fast asseblief & repair all broken computers before ??? & train staff to work with people professionally

Demographics: Sotho, Undergrad, <22 yrs, high seg, Female

ID-2252, Q1, , Q2, I do not understand this question., Q3, A lack of computer facilities with enternet., Q4, I do not understand this question., Q5, It is interactive and can be engaged at any time, user's descretion., Q6, Easy ecess reduction in lag time and the user is in control. Q7, I wish for greater information about developments in the field of ICT's to be made to more people (varify the demographic).

Demographics: Xhosa, Undergrad, <22 yrs, high seg, Male

ID-2269, Q1, Sometimes the labs are closed, and we all have to wait for a long time to get in the labs. You find that you might be late for class, if you keep on queing, Q2, , Q3, The Internet cafe is not fully equipped, and they are too expensive as the owners are aware that we really need this service., Q4, Getting to the Cafe really early, before it becomes stampede, with everyone wanting to go in, Q5, Q6, -Each every concept that you don't understand you can find on the internet -The textbooks that we use are now interlinked with the internet, because you can register and login their site, interact with the many students around the globe who are Q7, I think laptops and computers should be made cheaper, so that the digital gap can be bridged and everyone can have access to the Internet and other activities that actually do take place on the Net.

Demographics: Zulu,, <22 yrs, average seg, Male

ID-2574, Q1, , Q2, , Q3, , Q4, , Q5, ,Q6, you can access whatever you need, academically and socially. Find information about many stuff eg. Find a sponsor for a bursary etc. Q7,
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-2661, Q1, too few computers, Q2, internet access, Q3, extremely unreliable internet connection, Q4, nothing, Q5, ,Q6, improves my learning and gives me a global perspective Q7, need more PC's on campus
Demographics: English,Undergrad,<22 yrs, low seg, Female

ID-2757, Q1, labs are crowded and time is always limited, Q2, staff, friends, quickness of the actual system i.e. internet, Q3, it never works. It is unreliable yet it can be helpful when it starts to work, Q4, location, quiet space, no time limits, Q5, neatness, work is always presented in a logical cohesive way,Q6, world wide web- world wide information Q7,
Demographics: English,Undergrad,, low seg, Male

ID-2788, Q1, limited number of computers and people using them for social and recreational purposes, Q2, being able to access the internet, Q3, lack of computers and internet rates, Q4, , Q5, sometime the information presented is not relevant in South African context,Q6, one gets too much information in a short space of time Q7, no
Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-2853, Q1, population of students who require the same limited resources, Q2, , Q3, nothin, Q4, it's in my room, Q5, sometimes I can accomplish tasks faster on paper, bu invaluable fo rinformation gathering, which is far too slow in a library,Q6, fast information gathering Q7, put the wits library books all online in E book(Pde) format for ease of use , preserve books and allow all studentEQUAL opportunity!
Demographics: English,Undergrad,22-25 yrs,average seg, Male

ID-2989, Q1, Broken PC's slow things down at the libraries. This causes quea to form which really make life difficult as that time is wasted in the long run., Q2, Computers are easily accessible in terms of the geographical context (i.e. they are in virtuallu every building)., Q3, Possible internett problems caused by Telkom infrastructure failing, a fairly regular thing for me., Q4, Setup maximised to make work very efficient and makes best use of time., Q5, Lack of resources to us in South Africa and at a university 'separated' from the rest of the world.,Q6, They make carrying out assignments much easier and faster as errors are easily sorted out through the digital checks most work related software programs carry out. Q7, Improved internet access such as more careless hotspots on campus combined with increased bandwidth for Wits students would be of great benefit to the majority of individuals.
Demographics: English,Undergrad,, low seg, Male

ID-2993, Q1, The number of students per lab/library etc. Sometimes one must wait quite long in order to access a computer., Q2, There are a large number of them on campus, Q3, nothing, Q4, It is my own computer., Q5, Some people cannot easily access ICTs, thus an unfair advantage to others.,Q6, Access to information is precise and fast. Q7,
Demographics: English,Undergrad,22-25 yrs, high seg, Male

ID-3031, Q1, most are not working, slow in responding, Q2, , Q3, The ICTs are meant for the whole public whereas here at Wits only Wits students are allowed., Q4, My library membership with Rosapark library in Soweto., Q5, They are complicated and vulnerable to errors.,Q6, make studying easier Q7, no
Demographics: Sotho,,<22 yrs, high seg, Female

ID-3057, Q1, What makes it difficult is that at times, there aren't enough computers during 'peak' hour which is lunch time or the little break we have in between each lecture, lol. However generally it is effortless accessing the ICTs on campus. The only t, Q2, labs and software, Q3, the are although there are many internet café's, they are usually full and noisy., Q4, software and computer, Q5, the time it takes to acquire information, sometimes it takes too long.,Q6, There's a variety of information so you can acquire a large-based information source. Q7,
Demographics: Setswana,Undergrad,22-25 yrs, low seg, Female

ID-3096, Q1, It's a computer, Q2, Internet, Q3, computers, Q4, computers and internet, Q5, It help to have knowledge, skills and e.perience.,Q6, improve my studies. Q7, No
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3130, Q1, there are not enough computers and sometimes access to internet can be difficult due to network is always down., Q2, It helps because I don't pay for the access and I can do all my schoolwork in the library., Q3, Off campus the access to computers is expensive, you have to pay for use of internet., Q4, I help myself off campus by using a friend's computer., Q5, when other students use ICTs for things like sms or download music videos.,Q6, The information that is available on computers to help with the communication skills. Q7, I would like to gain more access to ICTs as I am studying towards a Public Relations Officer. It Will help a great deal in the future.

Demographics: Zulu,Undergrad,22-25 yrs, low seg, Female

ID-3175, Q1, Limited time given when using computers., Q2, Scheduled time, Q3, less resources, Q4, friends computer., Q5, Helps to communicate with out-side world.,Q6, Helps to improve about learning Q7, no

Demographics: Xhosa,,<22 yrs, high seg, Male

ID-3214, Q1, software and labs and sometimes internet, Q2, internet, computers and labs, Q3, location, Q4, internet, Q5, N/A,Q6, Improve my learning and makes my studying easy Q7, It introduces me to the world via internet

Demographics: Xhosa,Undergrad,<22 yrs,, Female

ID-3265, Q1, Shortage of labs, no internet sometimes, Q2, Scheduled time out time table, Q3, There are no computers at home, Q4, I don't do it, Q5, ,Q6, Gain some information, communicating with friends, searching for employment Q7,

Demographics: Zulu,Undergrad,, high seg, Male

ID-3272, Q1, As mentioned above there are people using computers as part of their course and they are given passwords to long on the computer of which it is very hard for us use computers because we don't have those passwords that are required, Q2, We have to go and book the computers in our spare times and use them for some couple of hours, Q3, It is because my home town is still developing so there number of computers is limited. It is first come first serve. So it makes it hard if you are really in need of a computer at that time, Q4, A friend of mine has a computer so he helps me when I need a computer, Q5, ,Q6, After we have passed our course, we will be able to use computers because every job requires a person to be computer literate eg a person who will be able to type, do presentation on conferences using personal laptops etc Q7, Firstly everybody should do computer as part of their courses as I have mentioned in B18 that every job requires a person to be computer literate. Secondly each faculty must its own computer lab so that there will be no shortage of computers

Demographics: Zulu,Undergrad,22-25 yrs, low seg, Female

ID-3281, Q1, Computers is insufficient in my campus so it is very difficult to use ICT, Q2, comp, Q3, , Q4, , Q5, I don't like play music or games,Q6, It help us to increase rate of graduate passing late in terms of learning Q7, Additional of computers and internet its better in order of improvement

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-3289, Q1, Due to the shortage of these ICTs that makes less access to us, Q2, Sometimes we go outside the campus for computer use and internet, Q3, As I outlined earlier on it is the scarcity of ICTs, Q4, Look for help in other institutions ie other places using computer, Q5, There is always a need of these ICTs for learning to make things easier,Q6, For instance the computer is used as one of the literatures sources available Q7, Yes. Without ICTs in the tertiary level that degrade or demoralize the standard you are in

Demographics: Xhosa,Postgrad,<22 yrs, low seg, Female

ID-3317, Q1, lack of computers, Q2, booking faculty lab, Q3, it is because I live in location, Q4, nothing help me, Q5, playing games & downloading songs,Q6, it can help to seek the job Q7, increase of labs & 24 hour labour

Demographics: Xhosa,Undergrad,,,

ID-3318, Q1, there is a shortage of computers, I have no access to internet, Q2, when I am asked to make research on internet, Q3, inadequate computers, internet is being paid & I am living in rural area, Q4, , Q5, it helps a lot,Q6, to be familiar with what is happening in the world, to be in contact with other campuses Q7, n/a

Demographics: Xhosa,,22-25 yrs, low seg, Male

ID-3460, Q1, Limited time for you to access the lab and also many classes depend on the same lab, Q2, Time table to go to the lab, Q3, Don't have a computer at home and the location, Q4, internet

café, Q5, Information that we don't need and unnecessary, Q6, Very quick and helpful in communication with people outside your town or city and offer information Q7, We need more computers that are in good condition and the time must not be limited
Demographics: Xhosa, Postgrad, <22 yrs, average seg, Female

ID-3497, Q1, Too many tests, Q2, Labs, Q3, Where I live there are no internet café, Q4, I can't get any assistance, Q5, It not easy access ICTs, Q6, Able to find job Q7, If there will be more computers for students I think it will be the solution
Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-2, Q1, sometimes there are test on week where we have to do some assignment then you have to wait for those also write to finish but in fact is not so hard, Q2, my student card is the main source of my permit to access internet, and also my own morals to obey rules written for ICT regulation, Q3, eish sometimes the internet café is full or I don't have money to pay, Q4, is just money I have to pay, Q5, I don't like looking at videos, Q6, getting animations of chapters we do in biology like DNA animation and experiment it makes me to understand from very much ??? Books Q7, ICTS is very good in our school but please if you can fix some of computer which cannot read memory sticks please!!
Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-18, Q1, none, Q2, internet, Q3, internet, Q4, computers, Q5, it is very safe, handy and speedy, Q6, make my studies easier Q7, to be taught more softwares
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-23, Q1, labs, Q2, computer, Q3, computer, Q4, internet, Q5, playing games instead of searching information, Q6, finding updated information Q7, icts is very important for the most of modules to find information so it must be adequate to students since it contributes 50% of their studies
Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-25, Q1, time sessions, Q2, to do my academic work easily, Q3, I do not have ict, Q4, getting information and improving my skills, Q5, none, Q6, it improve my learning in a way that I get exposed to most of the things that I didn't know Q7, it is easily accessible
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-29, Q1, it is not hard, Q2, computers & internet, labs, Q3, not hard because we have internet & computers, Q4, computers in lab, internet, Q5, sending sms by computer, Q6, doing my assignments using microsoft word, excel Q7, no
Demographics: Setswana, Undergrad, 22-25 yrs, average seg, Male

ID-31, Q1, not hard as usual, but sometimes computers are off-line, students crowded, internet difficulties & log-in problems, Q2, computer lab staffs & management of the campus, Q3, I don't have any connection to people having access to internet or personal computers, Q4, not at all I don't even access even internet nor computers off campus, Q5, internet delay, internet long-time searching as well as internet difficulties like disconnection, Q6, generally for research purposes, assignments & live-encyclopedias. internet access, printing, typing, copying & graphic design. communication Q7, to find on-line jobs related to my course. on-line daily-news related. for the primary & secondary schools to access itc
Demographics: Setswana, 22-25 yrs, low seg, Male

ID-35, Q1, sometime the majority of the computers are not working or internet is experiencing problems & therefore needs to be closed down & the time when the computer opens especially on Mondays 10h00, Q2, computers & internet do help a lot for doing perfect research & assignment, Q3, lack of finance for accessing computer at the internet café, Q4, I don't have any access of computer off campus, Q5, nothing, Q6, makes studying easier, makes me enjoy doing my assignments & projects & helps me achieve better marks for my courses Q7, it makes studying enjoyable & easier
Demographics: , Undergrad, <22 yrs, high seg, Male

ID-36, Q1, nothing except with am not with student card, Q2, lab assistant, Q3, lack of money, Q4, the knowledge I received from the school assist me, Q5, I even see anything is waste in using ict, Q6, it really improve my learning skill & making studying easier for me Q7, for the fact ict, is an easy problem solving equipment
Demographics: , Undergrad, , high seg, Male

ID-37, Q1, nothing make me hard to use ict on campus, Q2, ict help me very much, if I need more info for assignment I know where I can find it, Q3, nothing bring problem to me, Q4, it help in terms of

assignment, Q5, I like doing my work especially assignment, Q6, doing my assignment its valuable for me Q7, no I am happy with everything

Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-40, Q1, as I said before to access computers, internet or software is very easy for me to access. I don't find it hard at all, Q2, well for me I might say if the computer system is fast it helps me to access websites, web pages & the rest of them, Q3, I access computer off campus whenever I noticed that the server is slow, so I find it hard to operate the system. Then I find it to continue my research, Q4, when I came in to serve the net, if I don't find much users, it help me to concentrate on my research, then I can have my privacy, Q5, using ict to me I don't think it's a waste. Ict helps me to be more advanced in technology & more it helps me to improve in my studies, am happy being an information system student, Q6, improving on my level of skills. Help me to become a computer. Making me to be advance in technology & also making studying easier & easier for me Q7, well I don't much to say but all I understand is that using ict generally is good for everyone not only me

Demographics: English, Undergrad, high seg, Male

ID-50, Q1, it always has many students & some of the computers does not work, Q2, software, Q3, it is not difficult at all because in the internet café people are watching the time not to waste it or their money, Q4, , Q5, unskillful educators. Illegal info that people or student need not look at, Q6, it helps for researching finding of info & updated info Q7, it improve the skills & the knowledge

Demographics: Setswana, Postgrad, <22 yrs, low seg, Male

ID-51, Q1, most of the computers at lab are fully booked & some of them are offline, Q2, software, Q3, its hard because you spend lot of money to access the internet, Q4, its hard because there is no computers unless you go to internet café, Q5, unskillful educators in terms of it & unlawful programs that are on the computers, Q6, it help for doing research & on doing assignments Q7, using icts motivates learners & it improves the skills

Demographics: Setswana, Undergrad, 22-25 yrs, high seg, Male

ID-57, Q1, a very large number of students but few available functioning computers, Q2, friendly computer lab assistants, Q3, scarcity of computers in rural areas, Q4, my cellphone, Q5, some online sites are totally irrelevant as they contain useless info, Q6, typing of assignments, surfing the internet Q7, it is very helpful to students

Demographics: Setswana, Postgrad, <22 yrs, average seg, Male

ID-69, Q1, , Q2, , Q3, , Q4, , Q5, very valuable, Q6, makes my studies easier Q7, makes accessibility little more easier & upgrade the currently existing software

Demographics: Setswana, <22 yrs, high seg, Female

ID-81, Q1, some of the computers cannot access micro software, Q2, assistance in lab, Q3, I have no computer, Q4, , Q5, because you will adequate knowledge & skills on the level of your learning programme. Things that waste time game, sms, Q6, if you apply online by internet. When you have bursary. Info you get from the internet Q7, inform you about the job, bursary. How can you access the right computer that functions correctly

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-86, Q1, school assignment & homework, Q2, finding answers quickly, Q3, for doing assignment & typing, Q4, lack of education, Q5, , Q6, Q7,

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-91, Q1, sometimes the computers are fully occupied the only ones left are the ones which are not working properly, Q2, I am able to find info that helps me with my studies eg how to use microsoft word, excel, powerpoint which are really useful when coming to my computer class, Q3, I don't have my own computer, I sometimes use my friend's & sometimes when I really need to use it I find him not there & I have to go back home & wait, Q4, typing assignments & saving them on the memory stick & print them out at school for R2 a page, Q5, nothing everything is great, Q6, using the microsoft office (for practice). Finding info on the internet Q7, my access to icts have helped me to improve my multimedia knowledge. It also have helped with my understanding of using softwares & certain cultural, historical events

Demographics: Setswana, Postgrad, <22 yrs, average seg, Female

ID-101, Q1, security guard us most of the times & not giving us a chance, Q2, nothing, Q3, owners of the computer uses it most of time, Q4, nothing, Q5, nothing, Q6, pictures on internet helps with

understanding & making (research) assignments are easier Q7,
Demographics: Setswana, Postgrad, <22 yrs, high seg, Male

ID-105, Q1, , Q2, , Q3, , Q4, , Q5, pornography, Q6, improve my learning Q7, I wish to have easy access because I only see computers around campus
Demographics: Setswana, Undergrad, <22 yrs, average seg, Male

ID-115, Q1, , Q2, , Q3, , Q4, , Q5, icts are helpful tools which are helpful to the benefit of each student in the university, Q6, using icts is good because it helps a student with many things eg typing tests which are good for students Q7, I would appreciate if the university could bring out such comments on the use of icts in our campus so that all students participate & be able to see the importance of icts
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-117, Q1, unavailability of internet, Q2, student card internet, Q3, don't leave it, lack of computers, Q4, nothing to use if off campus, Q5, chatroom, chatting online, Q6, finding websites about courses I do & getting help online Q7, helps me a lot to access to computer
Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-124, Q1, lack of computers, Q2, to be early at the lab, Q3, location & finance, Q4, n/a, Q5, I like everything about icts because its helpful to my studies & is easy to find job using icts, Q6, I learn something new & analyse the contents of the course that I am doing Q7, no
Demographics: Setswana, Undergrad, <22 yrs, low seg, Female

ID-127, Q1, there not so many computers in campus one that are available are sometimes not working, Q2, personal matters & careers, Q3, because lot of people around where I do not have computers, Q4, nothing, Q5, nothing, Q6, it helps in my studies it makes it easier Q7, no
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-128, Q1, slow somputers, internet not be installed, sometimes, Q2, internet, computers, Q3, because I don't have one & have to travel to town so I can access icts, Q4, pay & use the services of internet cafes, Q5, nothing I can think of, Q6, improve my learning Q7, no comments, just wish I could have instant access when I'm in need
Demographics: Setswana, Undergrad, 22-25 yrs, average seg, Female

ID-131, Q1, shortage of fully functioning computers, Q2, internet, Q3, I don't have my own computer, Q4, internet, Q5, n/a, Q6, it makes studying easier, especially when looking for info from the internet Q7, no
Demographics: Setswana, Undergrad, , low seg, Female

ID-137, Q1, when there are many students in the central computer lab & it gets difficult to access the computers. The central computer lab is small to accommodate all students who would like to use this lab & sometimes you find broken or computers that are, Q2, it helps with my assignments & its good for students to use icts on computers. It is reliable & also with info I need for a general purpose, Q3, I have to go to the internet café to use a computer or the post office & there is a time limit when I'm using them, Q4, when I have to do assignment & find other info when the computers in campus are offline, Q5, I think icts is valuable for learning. It is not a waste of time. It has helped me in my assignments & other general info needs, Q6, it makes studying easier for students & most students don't find it difficult to use Q7,
Demographics: Xhosa, <22 yrs, average seg, Female

ID-144, Q1, , Q2, , Q3, I don't have a computer that I can use off campus, Q4, n/a, Q5, it is always full with lack of desktops, Q6, it accelerates my way of learning Q7, no
Demographics: Setswana, , low seg, Male

ID-147, Q1, when computers are in limited supply & few labs, Q2, plenty labs & many computers, Q3, internet is unavailable, Q4, location where I live, Q5, provide with more info, Q6, make studying easier by researching on the internet Q7, the only thing I would like to say about icts is that we appreciate your services keep it up with you we are students
Demographics: , Undergrad, ,

ID-157, Q1, because computers are not working, Q2, internet, Q3, , Q4, , Q5, I think computers are valuable. Having a computer is a necessity, Q6, things like getting info about my assignment Q7, I think the management has to make sure that all computer are in the right condition for all students
Demographics: Sotho, , low seg, Female

ID-165, Q1, we have very few computers in the computer lab. Most of computers are not accessing the internet. All students are running important project using computers eg research, assignment, typing, Q2, came early hours when the computer lab has just open. I can switch on the computer & access internet when is off. I arrange with students to borrow me one of the computers when they are done, Q3, , Q4, , Q5, info that is irrelevant to my learning. Search for a site that is not accessible. Finding source of info but not available in your language, Q6, learning basic spelling of words. Accessing definitions of words. Reading info from different journals & essays Q7, computers are easy accessible but sometimes don't access network. Our computers are slow in downloading info
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-169, Q1, the capacity of students in the campus looking to use icts is a overwhelming one so its hard to access them when you need to, Q2, labs are our most helpful ways of getting to icts, Q3, lack of computer services or center that allow one to do so. Community members are also in need & so they cant offer assistance, Q4, location, Q5, they help you get straight to the topic at hand & even elaborate on the subject, Q6, whats most valuable about using icts is their being so user friendly Q7, its extremely fun to use icts they make school learning fun & just provide exciting challenges in life for human
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-170, Q1, there are more students less computers, Q2, coming to the general lab during weekend (Saturday), Q3, I don't have money to buy myself a computer, Q4, coming to the general lab, Q5, playing computer games, Q6, finish my assignment on time Q7, I wish I had my own computer
Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-174, Q1, users are many but computers are less, Q2, university's computer general lab, Q3, I cant afford it, Q4, n/a, Q5, nothing but I do not play games, Q6, typing essays & conducting research Q7, I wish to have a personal computer to spend my leisure time on it
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-175, Q1, space & noise levels, Q2, computers, Q3, location, Q4, computers, Q5, some programmes are very slow, Q6, make studying easier Q7, n/a
Demographics: Zulu, Undergrad, <22 yrs, low seg, Female

ID-180, Q1, internet connection on campus is sometimes off, Q2, computers, Q3, n/a, Q4, n/a, Q5, don't help you at all, Q6, make studying easier. Improve your learning Q7, connects you to all the sources of info you need in all form
Demographics: Setswana, Postgrad, <22 yrs, high seg, Female

ID-183, Q1, we don't have enough working computers at school, but that's about to change because the school is making another computer lab, Q2, labs, Q3, its not hard, Q4, we have a computer at home, Q5, when its not available to all students, Q6, like seeing pictures & graphics for students with visual memory Q7, if icts were accessible anywhere at campus & at any given time it would be better
Demographics: Setswana, <22 yrs, low seg, Female

ID-195, Q1, computers, Q2, internet, Q3, the internet cafés are always full, Q4, , Q5, things that don't help me, Q6, it makes studying easier Q7,
Demographics: Other South African language, Undergrad, 22-25 yrs, low seg, Male

ID-205, Q1, labs, Q2, computers, Q3, computers, Q4, internet cafes, Q5, irrelevant info at some points, Q6, makes studying easy Q7, it would be much easier if I had a computer of my own
Demographics: Zulu, Undergrad, <22 yrs, average seg, Male

ID-218, Q1, most of the computers are not working & all the others will be occupied so you have to wait for more than 30 minutes to set one of which there will be so many people waiting to use computers. They are also slow, Q2, the labs, Q3, I have to travel to town so that I can use the internet which as a student is expensive for me, Q4, the internet café & friends, Q5, I may end up being lazy to go to the library, Q6, it makes my studying easier. For the textbook that I'm supposed to use is not available in the library I can use the internet Q7, no
Demographics: , 22-25 yrs, low seg, Female

ID-225, Q1, sometimes the computer lab is packed. This makes it highly impossible for one to access a computer, Q2, for my research purposes I usually access internet from the computer lab. It helps to get latest info which cannot be found in the library or journals, Q3, , Q4, , Q5, sometimes we need to depend on it & then we hardly consult the library, Q6, it provides a lot of info & it is more likely that you will get the related info from the internet Q7, there are always a lot of people using the icts to access

info & other purposes. So I think the additional computer lab is an advantage to the students
Demographics: Other South African language, Undergrad., low seg, Female

ID-240, Q1, large number of students, pcs are less, Q2, internet & microsoft, Q3, no pc at home, Q4, internet & microsoft, Q5, n/a, Q6, improve my learning Q7, none
Demographics: Setswana, Undergrad, 22-25 yrs, average seg, Female

ID-244, Q1, internet because not all computer have internet in the lab, Q2, computers & software, Q3, computers because I don't have one, Q4, post office sometimes or internet café, Q5, it help me in many ways especially in my course of statistics & other thing like email, Q6, what other university approach their work & lecture note on the net Q7, no
Demographics: Sotho., 22-25 yrs, high seg, Male

ID-246, Q1, computers, Q2, internet, Q3, I don't have a computer & I don't afford to go to internet café, Q4, , Q5, I am able to learn many ways of solving problems related to my course, Q6, improve your learning Q7, no
Demographics: Sotho., 22-25 yrs, low seg, Male

ID-248, Q1, I don't think I experienced any difficulties when accessing icts on campus. Sometimes you find that there is offline problems of which they were sorted out immediately, Q2, I think researching vacancies, assignments, emails & the most important thing is communication is being easier on daily basis, Q3, I have never experienced any difficulties, Q4, typing my assignments & save important document relating to my social life, Q5, I don't think there is anything I don't like about icts. They are helpful in many ways, Q6, I think time is the factor that icts meets. In a sense that communication is made a lot easier & regarding to my studies, social life & other activities, it add value Q7, none
Demographics: , Postgrad, 22-25 yrs, low seg, Male

ID-251, Q1, , Q2, computers, Q3, location, Q4, , Q5, everything is perfect. There is nothing I don't like, Q6, it is very helpful because it helps me to improve my learning Q7, none
Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-259, Q1, sometimes there are shortage of computers, Q2, availability of computers that have internet, Q3, when I'm at home there are no internet café like here, Q4, my academic work is progressing & I catch up with my friends, Q5, sometimes one doesn't get all the required info, Q6, internet by websites google & msn Q7, no
Demographics: Setswana, Postgrad, <22 yrs, low seg, Female

ID-296, Q1, To much students for the amount of computers available, and computers don't always work., Q2, I can access the internet and do assignments, can type my assignments and get information from lectures., Q3, I do not own a computer, Q4, If I get access to a computer off campus, then it helps me with my assignments, Q5, Sometimes it takes to long to log in. the computers jam/get viruses, Q6, Studying easier - Internet access for information for assignments Q7,
Demographics: Afrikaans, Undergrad., low seg, Male

ID-312, Q1, When the library is full or because im too lazy to go there., Q2, Ive got my own computer and there are a lot of computers available on campus, Q3, Theres just one computer between our family., Q4, We have a computer and internet, Q5, It can be deleted (eg therefore a paper I wrote on the computer)., Q6, Makes studying easier. Provides access to move study material Q7,
Demographics: Afrikaans, Undergrad.,, Male

ID-318, Q1, Timing, sometimes I want to use the printers after hours and their broken or out of paper and there is no one on duty to fix it., Q2, It is walking distance from where I stay and the labs are usually open 24/7, Q3, Don't know where else to print or sometimes its difficult to find a internet café to check e-mails if my 3G cards usage is up, Q4, I have a laptop in my hostel, so I don't have to walk to use a computer, Q5, Are dependent of a comp, so when I don't have one nearby, I wont be able to work., Q6, Makes my essays nicer and helps with things like leaning with slide shows. Q7,
Demographics: Afrikaans, Undergrad, 22-25 yrs, average seg, Female

ID-334, Q1, , Q2, Dit is maklik bekombaar en van die lokale kan 'n persoon 24 uur 'n dag gebruik., Q3, , Q4, I am able to do it from my own home, Q5, Power failure and network disconnections, Q6, Visual examples, tests and audio explanations Q7,
Demographics: Afrikaans, Undergrad, <22 yrs, high seg, Male

ID-347, Q1, Students who use computers and the internet for games and personal use., Q2, It helps a lot to use computers and labs if its in the evening because the day scholars and Farani students have left by then, Q3, , Q4, , Q5, One can become too dependent on it that you don't use other resources for references and extra help,Q6, It makes my studying very easy, as im a visual learner, I prefer ICT for helpfulness Q7, I wish that there could be enough computers regardless at which time of the day it is. If I want access to ICT for my studies, I must be able to gain access to it.

Demographics: Sotho,,22-25 yrs, high seg, Male

ID-353, Q1, The computer lab is always full and the noise makes it hard to work in peace. There is also shortage of computer as some of the computers are not working, Q2, computers, Q3, The residences computer lab is not working. It is closed most of the time, Q4, nothing, Q5, The backround that is presented is mostly historical and some are not in time with the changes.,Q6, Processed studying notes and previous question papers. Q7, I would like for study fields to be explained more briefly for example, their advantages and disadvantages not only their benefits

Demographics: Sotho,Undergrad,, high seg, Female

ID-358, Q1, There may be classes in the computer labs therefore, it would be hard to get hold of a free computer. Sometimes, the internet may be inaccessible - the server may be down., Q2, The fact that I am a registered student with my own, unique student user number and password to log in and make use of the computer and internet, Q3, nothing, Q4, A computer is available where I live and I am able to use it whenever I need to, Q5, nothing,Q6, makes studying and doing assignments easier Q7, none

Demographics: Other South African language,Undergrad,<22 yrs, low seg, Male

ID-360, Q1, I have access to computers and internet, Q2, Computers, internet, IT tutors or assistants, Q3, stated above, Q4, N/A, Q5, less help from the ones who have skills,Q6, Makes learning easier Q7, No

Demographics: Sotho,,, low seg, Male

ID-398, Q1, The computer lab are always full of students, Q2, To come earlier before anyone else, Q3, Because of internet not available, Q4, If I go to internet café, Q5, Personally nothing. I see it as campus,Q6, It helps me recall facts and solve problems and also know how to use computers Q7, It must be always accessible

Demographics: Setswana,Undergrad,, low seg, Male

ID-406, Q1, The fact that almost everytime there is a closer, Q2, knowledge gained from past events, Q3, Because there must money that one has to pay to get access, Q4, Knowledge gained from past events, Q5, Sometimes information irrelevant to what I am looking for,Q6, It makes its easier for my studies Q7, There should be more internet labs because sometimes they are full and there is some work to do

Demographics: Zulu,Postgrad,,,

ID-413, Q1, , Q2, , Q3, , Q4, , Q5, It helps me get all the information I might need either for my course or general information. It provide me with entertainment,Q6, When I need information about any module of my course Q7, N/A

Demographics: Zulu,,<22 yrs,average seg, Male

ID-419, Q1, , Q2, Computers, obviously you will go to internet if you need some help with your work, Q3, , Q4, I don't use computer off campus, Q5, Because it gives you something that you need most and it helps a lot for someone who is doing a research,Q6, It make things easy for you to study because information most of the time is straight and forward Q7, It makes life easy and things go smoothly than you expected

Demographics: Sotho,Undergrad,, low seg, Male

ID-428, Q1, sometimes the students are too many, and the computers become full, Q2, It helps me a lot to get access to internet to be able to do my assignments, Q3, Where I live in the Fararani residence there are computers but the problem is the computers are always full, so I don't use them., Q4, N/A, Q5, Like when you are asked to type a certain assignment instead of writing with your own hand writing,Q6, You can search for previous question papers on line and when given an assignment you can get help from the internet Q7, What I can just say is that computers are very important for my studies

Demographics: Xhosa,,<22 yrs,average seg, Female

ID-452, Q1, N/A, Q2, Computer and internet, Q3, I don't have pc and internet connection, Q4, N/A, Q5, N/A, Q6, Help us to complete Assignments successfully Q7, Performs a very excellent job in university level

Demographics: ,Undergrad,,,

ID-473, Q1, Noise, Q2, Information, Q3, Noise, Q4, Information, Q5, It does waste time, but that does not make me dislike it, Q6, It helps us do our assignment easier and also efficient Q7, Everything seems nice to me

Demographics: Sotho,,, low seg, Male

ID-538, Q1, network problems, Q2, Network not having problems, Q3, Phoneline being busy, Q4, Phone line not being busy and computer unoccupied, Q5, Waste of time to have a compulsory course consisting mostly of skills I already have., Q6, Easy to obtain information Q7, No

Demographics: Afrikaans,Undergrad,22-25 yrs, low seg, Female

ID-647, Q1, internet, Q2, computers, Q3, internet, Q4, computers, Q5, , Q6, it helps me prepare for tests & practical work Q7,

Demographics: Afrikaans,Postgrad,<22 yrs, high seg, Male

ID-664, Q1, nothing, Q2, university local area network, Q3, nothing, Q4, good cellphone coverage, wireless network, Q5, nothing, Q6, it helps to do the practical application of the theoretical work Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-687, Q1, , Q2, , Q3, internet connection, Q4, nothing - I'm not registered, Q5, , Q6, Q7,

Demographics: Afrikaans,Undergrad,,, Female

ID-714, Q1, Labs are too small, Q2, Computers, Q3, Internet Connection, Q4, N/A, Q5, It is sometimes difficult to find the right information, and to get the correct program to work., Q6, It helps to study, old exam papers Q7, It really makes studying a lot easier

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Female

ID-716, Q1, sometimes the labs are crowded and the computers are slow, Q2, There are labs all over campus, Q3, , Q4, It helps that hostels have access to the internet and the PUK - network, Q5, , Q6, slide shows, simulation software Q7,

Demographics: Afrikaans,Undergrad,<22 yrs, low seg, Female

ID-763, Q1, There a few computers making it hard to access computers when really in urgent need of them. Furthermore, the computers are slow in terms of access time thereby inconveniencing us considering the time we are allocated to use the computers per s, Q2, , Q3, Unavailability of computer resources where live as well as financial constraints to access public computers, Q4, N/A, Q5, Playin games, viewing of pornographic content, spamming, Q6, Easy access to information necessary for assignments. Improving my ability to recall facts through visual displays sometimes used by other sites. Increase my experience in the use of computers which necessary for my career development. Create a Q7,

Demographics: ,,<22 yrs,average seg, Male

ID-780, Q1, There are few computers but so many people who want to use the computers and most of them they don't have internet, Q2, to search for information, Q3, I don't have a laptop neither do I have a phone with GPRS, Q4, N/A, Q5, at times I cant get specific information I want, Q6, makes research work easier when doing assignments Q7, No

Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-803, Q1, the computers are limited, not all of us get access as we wish to, Q2, We go and queue at the computer labs, Q3, don't see anything hard, you can just go to internet café, etc., Q4, internet café, Q5, searching for porn pictures, video and so forth, Q6, you are able to search for assignments, type and print them, which makes it easier for your studying Q7, only that I find ICTs very useful to us, here on campus and to everyone I know who is using it it is helping us improve our learning

Demographics: Xhosa,Undergrad,,average seg, Male

ID-804, Q1, There are limited numbers, so we cannot access them right on time we need to use. Some computers have no internet especially in the library, Q2, , Q3, lack of internet and hardware to access it, Q4, Personal desktop computer and family internet connection, Q5, N/A, Q6, Research aiding when researching assignments. Ease of information search. Availability of a wide pool of information to use in educational essays such as South African examples Q7,

Demographics: ,Undergrad,,,

ID-809, Q1, faculty computer lab accepts students of higher levels than me. There will be a long queue at any given time at the library for computers., Q2, The system of fining people who overstay in the computer lab, makes it easy for everyone to access the ICTs, Q3, buying a personal computer is very expensive so I can only rely on internet café's, Q4, the café's are in the central business district (CBD) which is accessible to everyone, Q5, can be brain draining of one does not know what to do, Q6, ICTs are not time consuming when one knows what they are doing. Using ICTs saves energy and time. Saves people from strolling up and down the library collecting books when gathering information. ICTs also helps me to know the latest information Q7, ICTs enhance life at university but if accessing the ICT becomes a hassle, it becomes time consuming. I urge universities like my own to repair broken computers and advance the programmes available
Demographics: ,Undergrad,, low seg, Female

ID-817, Q1, The lab is often infested with people, Q2, ? For internet, using student cards for logging on., Q3, there are few computers, Q4, We use a 2 hour system. If your 2 hours are exhausted you leave the lab, Q5, if I don't access internet, Q6, questions + answers (past exam question papers) Q7, Should provide more specific search website for science faculty
Demographics: Xhosa,,22-25 yrs,average seg, Female

ID-818, Q1, The computer labs are always packed and only a few department have their own computers for example the agric and law department and only students doing those particular degrees are allowed to access the ICTs which makes it hard. The other thing, Q2, The internet helps me as an individual for research projects since I can log on to numerous sites to surf the net eg google and answers.com. This is where the ICTs are of use to me., Q3, Basically, its because I do not own a laptop so I use other peoples laptops in my residence of which many people use that laptop., Q4, Doing my assignment ontime, Q5, ICTs are very helpful for everyday learning, they accelerate the rate information spreads., Q6, Improve my skills Q7, We need more computers so that we can access the ICTs whenever we feel like.
Demographics: Other South African language, Undergrad, <22 yrs, average seg, Female

ID-846, Q1, Because other computers on campus don't have internet so sometimes you don't find the relevant information you would like to find, Q2, It helps me to spend my time wisely also it makes studying fun., Q3, When other people want to use it too and you will find it sometime you don't have the money to go internet café, Q4, The fact that I have one at home and that there internet café either than that theres nothing that helps, Q5, If you don't know that much about them especially if it's your first time or your're not used to them becomes difficult to access them and to get the relevant information you need, Q6, The information you get with the provision of books that you can look up to. Q7, Though we would like to know about computers it's difficult because there facilities are not enough though there are a lot of students. It would be really nice if each faculty was provided with +- 50 computers with internet access. So that we c
Demographics: Xhosa, Undergrad, <22 yrs, average seg, Male

ID-860, Q1, computers, Q2, internet, Q3, location, Q4, computers, Q5, It helps with lot of information and knowledge, Q6, It improve my learning. It makes studying easier. Q7, It is so helpful, especial when it comes to research and assignments.
Demographics: Xhosa, Undergrad, <22 yrs, high seg, Female

ID-866, Q1, The waiting line. The line is sometimes very long and you have to stand in it to get access for a computer at the library, Q2, the information systems on different topics of different courses, Q3, the fact that the computer at home is not my own but my brothers computer, Q4, the information which is needed for my assignment or any other course projects., Q5, Searching for information on the internet whereby they sometimes give you a lot of rules to read which is a waste of time, Q6, By getting relevant topics which is valuable to my courses. Also it gives you a better explanation for when you don't understand something Q7, No
Demographics: Afrikaans,,, low seg, Male

ID-891, Q1, Internet, sometimes its in and sometimes out. Which lead us not to submitt our practicals., Q2, Computers, they help us to do our assignments., Q3, Internet, Q4, Computers, Q5, Nothing because they help us a lot, Q6, Studying is easier. Q7, No.
Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-895, Q1, The lines are a mile long, one has to wait until someone else is done. Or you may find that even the computers are booked by some class or they are not working., Q2, I don't need any help, because I can access these things myself. If any help then it would be from friends and family., Q3, N/A, Q4, I usually know what to do. So needing no outside help., Q5, I don't find anything I dislike

because any type of learning is valuable to me. It teaches me something else, Q6, They don't waste any time, they are easy to access and are much faster in giving the results. And they always give you a variety of options in what you are looking for. Q7, I wish here in our university we would have more easily accessed ICTs. To avoid long lines/ques and the high noise level when we want to study
Demographics: Xhosa,,<22 yrs, high seg, Female

ID-953, Q1, Sometimes you find the computer labs busy for the whole day and also time limit, Q2, computers and internet, Q3, Its because you have to pay for the internet, Q4, , Q5, It has so many interesting challengers that I like., Q6, It guides me and from ym brain Q7, No
Demographics: Xhosa,Undergrad,,average seg, Male

ID-974, Q1, the computers are not upgraded from time to time, Q2, Both computers and internet, Q3, , Q4, I can be able to finish up assignments that I cant finish up in school. Revise the lecture received daily on CDs, Q5, N/A, Q6, It makes studies easier for me Q7, More computers need to be provided for the university to make it more easy for students in using computer for this academic works. They must make user friendly.
Demographics: ,Undergrad,<22 yrs, low seg, Female

ID-981, Q1, The long queues because everyone needs the computers., Q2, You just have to be patient and you'll get to do your work., Q3, Nothing its easier to access computers out there., Q4, the users are limited to a small number., Q5, Havent notice much I just do my task and that's it., Q6, The projectors and slides. The lecturer is more prepared and can do their work more efficiently Q7, No
Demographics: Xhosa,,,average seg, Male

ID-1092, Q1, The reason being there are few computers in labs as compared to a large volume of people who need to use computers. I can say the ratio people against people does not balance, Q2, I use my friends personal computers and at my department., Q3, its not that much hard because I use my own pc, Q4, , Q5, On acedemic point of view I enjoy using ICTs and see nothing that I don't like, Q6, Makes learning quicker and easier and enjoyable. Q7, I think theres a need to increase the no. of computers at east london campus because we are facing crisis of falling short of computers.
Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-1113, Q1, They are a scarce of resources, Q2, Internet, Q3, No access to the internet connections, Q4, Internet café, Q5, You will only be following the rules already set by other people, Q6, It enables an easier way of getting new information on studying and researching about other difficult things. Q7, It would be helpful if all the students have access and make all the learning electronically.
Demographics: ,Undergrad,, high seg, Female

ID-1127, Q1, Intranet is pretty hard to get around and the system is extremely slow, and that's if you find a computer, Q2, Waking up early... tutors of computer related subjects like computer science and information systems, Q3, accessing internet is expensive, Q4, Nothing when im off campus, Q5, Speed and through put of the systems. The available storage size for lil B too small, Q6, Adds a new dynamic to stydying. Allows more visual stimulation. Makes it easier 2 recall concepts. Q7, N/A
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-1185, Q1, when too many people are trying to log into the same net, Q2, it helps a lot with research, Q3, , Q4, , Q5, , Q6, Q7,
Demographics: Sotho,Undergrad,22-25 yrs, low seg, Male

ID-1221, Q1, labs, Q2, labs, Q3, computers, Q4, internet, Q5, I can learn more things everytime, Q6, really makes studying & understanding things much better Q7, no
Demographics: Sotho,Undergrad,26-42 yrs,average seg, Female

ID-1266, Q1, I have no problem, Q2, previous training, common sense, timing & patience, Q3, nothing, Q4, I can choose my own hours (eg 2am) & noise levels. I can also listen to music while working, Q5, group work that has to be done (where groups cant be chosen) results in one or two of the group doing all the work & the others cant be contacted because they don't know how to useicts, Q6, the fact that I'm on my own schedule & can choose my own time to complete assignments Q7,
Demographics: Afrikaans,Undergrad,22-25 yrs, high seg, Female

ID-1298, Q1, there is not enough terminals for each student therefore it is difficult to gain access at all times, Q2, central location, staff assistance, efficient technology systems, Q3, costs money, Q4, I am the primary user, Q5, its fast, Q6, its fast & effective Q7, n/a
Demographics: English,Postgrad,<22 yrs, high seg, Female

ID-1300, Q1, sometimes the network on campus is down - quite often actually, Q2, nothing, Q3, the cost using the internet at home makes access to icts difficult, Q4, my computer is in my room at home, so I can use it anytime I want when I'm home, Q5, some of the info on the internet is irrelevant & it is difficult to find relevant info, Q6, it helps increase learning & knowledge & helps compile neat & creative assignments etc Q7,

Demographics: English,,<22 yrs,average seg, Female

ID-1313, Q1, computers on campus are very few, Q2, , Q3, from where I live computers are very scarce & most of them are very far, Q4, nothing, Q5, it does help me sometimes, Q6, it improves my learning ability Q7, n/a

Demographics: Setswana,Undergrad,26-42 yrs,average seg, Male

ID-1316, Q1, sometimes the computer labs are too full or sometimes internet shuts down due to a technical problem, Q2, it helps me keep record of whats going on with regard to my subjects. It helps me keep in touch with people through email. It helps me be able to do my assignments more easier, Q3, n/a, Q4, n/a, Q5, sometimes computers of internet isn't accessible, Q6, the gaining of valuable info Q7, nope

Demographics: English,Undergrad,, high seg, Male

ID-1334, Q1, facilities on campus are not enough for everyone, Q2, more broad info, Q3, the fact that I do not own a computer of my own, Q4, I have more time than when I access icts on campus, Q5, none, Q6, summaries that are simplified, easy to read & understand Q7, none

Demographics: Sotho,Undergrad,, low seg, Female

ID-1337, Q1, there isn't always a computer available, Q2, the lab, internet, Q3, the availability of the computer during the day when the other person is at work, Q4, its easy, fast & private when I use it during the evenings, Q5, , Q6, it makes studying easier. Helps with understanding course info if the lecturer uses visual material in class Q7, believe it is very important & very helpful. Helps to prepare you for when you start working in business eg using internet, powerpoint, excel

Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-1341, Q1, , Q2, computers, internet, Q3, , Q4, computers, internet, Q5, , Q6, make studying easier, improve your learning Q7,

Demographics: Afrikaans,Undergrad,<22 yrs, low seg, Female

ID-1350, Q1, nothing makes it hard its extremely easy to get access to icts, Q2, pc & internet, Q3, I can access student number email from outside campus & I cannot access novell, Q4, internet cafes, Q5, it should always be included in the learning environment, Q6, it makes everything graphical therefore easier to understand Q7,

Demographics: Zulu,,<22 yrs,average seg, Male

ID-1361, Q1, internet, Q2, labs, Q3, , Q4, internet, Q5, nothing, Q6, I can find the info & the notes that I want & the software eg office helps me a lot Q7, nothing

Demographics: ,,<22 yrs,average seg, Male

ID-1381, Q1, there aren't sufficient computers at all the times, then I have to wait, Q2, being able to get to the computer lab early, Q3, nothing, Q4, I can take my time, Q5, its easy, Q6, you don't have to study the whole book, you get straight-forward info Q7, no

Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-1384, Q1, a lot of students make use of the facilities & it is sometimes hard to find available computers, Q2, the labs are situated centrally so I can easily slip in between classes & the assistants are very helpful, Q3, , Q4, having my own computer & internet connection, Q5, , Q6, the online tutorials force me to practice & apply my knowledge. I find that very helpful Q7,

Demographics: Afrikaans,,<22 yrs, high seg, Male

ID-1388, Q1, amount of computers available for the specific time. There are just too much student for the amount of computers available, Q2, academic, email, Q3, going on the internet. That is where my academic study notes are. So I have to go to campus, Q4, I can do my typing & layout of projects at hom, but printing should & must be done on campus, Q5, internet that is ver slow. Time is important, Q6, webct with the study notes from the lecturers Q7, no

Demographics: Afrikaans,Undergrad,,average seg, Male

ID-1393, Q1, nothing, normally but sometimes when quizzes must be submittes, no icts are available, Q2, internet as well as other mentioned above, Q3, n/a, Q4, all above mentioned, Q5, nothing, except

that computers often break/give problems,Q6, webct is really helpful for previous exam papers & notes lecturers do in class which they put on webct Q7, another lab would be useful
Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-1404, Q1, , Q2, computers, internet, Q3, , Q4, internet, Q5, nothing, its easy to access info from anywhere,Q6, powerpoint presentations (help to remember) tutorials (I'm able to understand the course better) Q7,
Demographics: Setswana,Undergrad,<22 yrs, high seg, Female

ID-1416, Q1, its not hard to access icts on campus, Q2, sometimes I need to do some quiz on computers & I need to research certain things on the internet, Q3, its not hard, we do have internet café & other people are close, Q4, some research that I need to do, its easy to do so, the people working there, Q5, I do like using ict for learning,Q6, makes studying easier & do improve my learning Q7, none
Demographics: Setswana,Undergrad,<22 yrs,average seg, Female

ID-1443, Q1, nothing, Q2, , Q3, not having money for internet café, Q4, having friends who have internet at their jobs, Q5, save time coz it make researches easy,Q6, improve my learning Q7,
Demographics: ,Undergrad,,average seg, Female

ID-1453, Q1, its very easy to access icts, I would lie if I said it was hard at all, Q2, the classes I got at the beginning of the year showed me how to work specifically with novell & webct, Q3, nothing makes it difficult, Q4, that its at home, Q5, it helps me by giving me info, so its very valuable,Q6, it gives me info that's valuable to my studies Q7, it's a good tool in helping me with my studies
Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-1457, Q1, at this point I'm still using my own computer mostly, Q2, internet, Q3, location, Q4, internet, Q5, I gain more info or knowledge about valuable things,Q6, makes the studying more easier Q7, no
Demographics: Sotho,,<22 yrs,average seg, Male

ID-1463, Q1, nothing, Q2, software, Q3, location, Q4, when computer lab is closed I can use the one off campus, Q5, computer lab gets full therefore icts are scarce,Q6, improve learning. Make studying easier Q7, no
Demographics: Xhosa,Undergrad,22-25 yrs, high seg, Female

ID-1475, Q1, nothing, Q2, the computers are many & everyone get time to access icts at his own time, Q3, lot of people don't have computers & again public internet terminals as well as internet café are always full, Q4, none, Q5, it is very valuable,Q6, it makes my studies a beat easier Q7, no
Demographics: Sotho,Undergrad,22-25 yrs, low seg, Female

ID-1533, Q1, nothing, Q2, accessing crucial info from webs, Q3, location, Q4, computer & cellphone, Q5, some are just a waste of time,Q6, gaining important info & improving my learning Q7, n/a
Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-1541, Q1, when I am free in the evening & cant come to campus cause I stay far from campus, Q2, the computer lab & my course, Q3, I don't have a computer, Q4, my cellphone cause it has internet, Q5, nothing. Everything is valuable & worth having,Q6, finding test & exam scripts from past years & having to know what was done in the class during the day Q7, it's a good opportunity for people who have never used computers
Demographics: Sotho,,<22 yrs,average seg, Male

ID-1547, Q1, sometimes the computer labs & the library are full, Q2, , Q3, the community centre is too far, Q4, , Q5, doing self test or quizzes which I do not get marks for,Q6, doing my quizzes on the computer Q7, my access to the use of ict. When I am at home is not good when I want to do other assignments
Demographics: Setswana,Undergrad,22-25 yrs, high seg, Male

ID-1561, Q1, there are lot of people, Q2, general info & research, Q3, airtime, Q4, update of progress, Q5, nothing that I don't like,Q6, make studying easier Q7, no
Demographics: Xhosa,,22-25 yrs, low seg, Male

ID-1626, Q1, internet, Q2, Labs to go to, Q3, Don't have a computer off campus to access, Q4, , Q5, Sometimes I find it hard to find what im looking for,Q6, Makes learning easier Q7, No
Demographics: Afrikaans,Undergrad,,

ID-1662, Q1, When it is time for assignments because we are many in the campus and therefore cannot have access to ICT, Q2, Being able to do your research and assignments on time, Q3, Having access to the internet, Q4, locating or finding a place to use it, Q5, Doing things that are not valuable in contributing to the well being of life and future, Q6, It makes my life more easier especially in my studies Q7,

Demographics: Sotho, Undergrad, average seg, Female

ID-1665, Q1, , Q2, Internet and software, Q3, Internet, Q4, Location, Q5, Pops up that appear and that do not go away, Q6, Improve my learn Q7, Yes make text book available through software

Demographics: , Undergrad, <22 yrs, average seg, Female

ID-1674, Q1, , Q2, , Q3, , Q4, , Q5, , Q6, Make study easier Q7,

Demographics: English, Undergrad, <22 yrs, high seg, Female

ID-1700, Q1, The number of computers to those of students on campus, Q2, The computers themselves, Q3, Internet, Q4, , Q5, Sometimes the lack of facilities, not updated data, Q6, It makes having to submit assignments on time a lot easier than having to sit in the library the whole day copying information a lot faster. Q7,

Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-1707, Q1, It sometimes take a lot of my time, Q2, To get better marks, Q3, There is always people using it, Q4, Get more information, Q5, Sometimes spending to much time, that I don't get the information I want, Q6, It makes my studying easier as well as improving my learning Q7, N/A

Demographics: English, Undergrad, <22 yrs, low seg, Female

ID-1726, Q1, nothing, Q2, , Q3, , Q4, , Q5, nothing, Q6, Very colourful and bright and innovative - mentally stimulating helps me remember stuff Q7, No

Demographics: Sotho, Undergrad, low seg, Male

ID-1745, Q1, , Q2, labs, software and the ICT stuff and assistants, Q3, Nothing its quite easy, Q4, I have a personal computer of my own, Q5, Its perfect for time management and the is little room for mistakes., Q6, The Gis software we use is very affordable and is selfexplanatory Q7, At university we use it (ICT) for almost every learning aspects of all courses

Demographics: Sotho, Undergrad, <22 yrs, low seg, Male

ID-1751, Q1, ICTs on campus are 100% available, Q2, Getting assignments done. (typing and printing). Receiving emails. Smsing friends and family. Submitting assignments. Looking up information (jobs and for assignments), Q3, Nothing, Q4, Campus our development the computer lab closes at 16:30 pm and I prefer to work there than at the main computer lab. Therefore access to ICTs off campus come in handy. Especially on weekends, Q5, , Q6, Q7,

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Female

ID-1766, Q1, over-crowding in the computer labs, Q2, computers and the internet, Q3, I don't have a computer, so I always have to ask for a friends and wait till they are available, Q4, location, Q5, Nothing. I find most of the things valuable., Q6, I can visualise some of the concepts in my course Q7, No

Demographics: Sotho, Undergrad, 26-42 yrs, high seg, Female

ID-1768, Q1, There is usually a line of students waiting to use the computers, Q2, Various computer labs, Q3, I have problems connecting to the internet, Q4, I have my own modem, Q5, It takes time to turn on and off the computer, Q6, Can do the same exercise over and over Q7,

Demographics: Afrikaans, Undergrad, <22 yrs, high seg, Female

ID-1780, Q1, nothing, Q2, , Q3, Because there are no computer facilities except personal computers from people., Q4, My cellphone helps me to access internet, Q5, I sometimes get unwanted information, Q6, It makes my studies easier by giving information I need. Make my life easier and better Q7, No

Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-1787, Q1, N/A, Q2, computer lab, Q3, The internet dial up and not fast enough, Q4, computer and internet, Q5, There is nothing I hate about ICTS, Q6, It helps me with my research and finding information regarding my subject Q7, ICTs is a brilliant way off doing work and makes it easy to communicate with lecturers and student

Demographics: English, <22 yrs, high seg, Male

ID-1791, Q1, nothing, Q2, computer labs, Q3, nothing, Q4, having my own computer, Q5, When the server is down, Q6, learning is easier Q7,
Demographics: Sotho,,26-42 yrs, low seg, Female

ID-1808, Q1, If to many student have logged on to the internet, the computer works very slowly, Q2, If you are looking for something and you do not know how to access it there is always someone waiting to assist you, Q3, If am going to a community center there is always long que, so I have to be willing to wait, and if am going to the internet café I need to have cash, Q4, It is not very far, Q5, Getting information that are not accurate or that are non traceable, Q6, online journals Q7, No
Demographics: Other South African language, Undergrad, <22 yrs, average seg, Male

ID-1809, Q1, Its hard when there are too many people who want to use the facilities, Q2, Punctuality and patience, Q3, N/A, Q4, N/A, Q5, Not knowing how to operate certain programs or when the computers are really slow, which wastes time, Q6, It improves my learning, and builds my intelligence in away. It also makes the accessing of information very easy Q7, N/A
Demographics: Other South African language, Undergrad,, high seg, Male

ID-1811, Q1, not enough, Q2, , Q3, , Q4, , Q5, , Q6, To present data in understanding way. Transparencies that must be copied by student form projector is useless. A person cant concentrate and try to write down everything at speed of light Q7,
Demographics: Afrikaans, Undergrad, 22-25 yrs, high seg, Female

ID-1820, Q1, no real difficulty if you are patient and have sufficient time, Q2, no que, Q3, N/A, Q4, N/A, Q5, slow internet, Q6, access to quizzes and lots of information on the internet which is easily accessed Q7,
Demographics: , Undergrad, <22 yrs, low seg, Female

ID-1832, Q1, speed to get access onto internet, Q2, software, Q3, No, Q4, , Q5, Quiet. Clear. Understandable, Q6, Make stuying easier Q7,
Demographics: , Undergrad, 22-25 yrs,, Female

ID-1842, Q1, sometimes the lab is full; not enough computers, Q2, Its nearby. Computers. Internet, Q3, not nearby, Q4, not nearby, Q5, Everything is on the computer you cant look at it again before a test eg. A quiz you did on WebCT. You don't always get the correct answers to learn your mistakes, Q6, Its fast Q7, No
Demographics: Afrikaans, Postgrad, 22-25 yrs, high seg, Female

ID-1849, Q1, Hard drives. Internet (unavailability), Q2, software. Internet, Q3, location, computers, Q4, computers, internet, Q5, Playing games (online). E-mailing friends, Q6, Encourages you to find information in your own and for yourself. Q7, N/A
Demographics: Zulu, Undergrad, <22 yrs, low seg, Male

ID-1850, Q1, Sometimes my password doesn't want me to access to ICTs, Q2, I usually asked those people in lab to help me, Q3, Webside of uofs. I mean the address, Q4, I tried several times, Q5, nothing that I don't like about using ICTs, Q6, Make studying and improving my learning Q7,
Demographics: Sotho, Undergrad, <22 yrs, high seg, Female

ID-1883, Q1, Nothing much beside if the network on campus is off, Q2, My password of course without it I wont be able to access to the ICTs, Q3, location, Q4, different locations, Q5, I is very helpful, Q6, the information you gain Q7, It is actually good using an ICT cause it minimises your job of writing long essays for examples
Demographics: Xhosa, Undergrad, 22-25 yrs, high seg, Male

ID-1888, Q1, When the internet is down on campus, Q2, It helps me with the notes that they have summerized for us and also we get the dates for our exams or test on the internet/web, Q3, You will find out that some people are busy using it., Q4, It doesn't help me at all, Q5, If the internet is down and I have an assignment to do on webcity and the due date is on that day, Q6, They summerise the notes Q7, No im ok with the access
Demographics: Setswana, Undergrad,,

ID-1889, Q1, Nothing makes it hard, Q2, There are lots of computers on campus and always not fully packed with students, Q3, Nothing, Q4, I always have access to it whenever I want to use it, Q5, Playing games or talking to peers, Q6, Information about my course. Im able to practice for some of my modules Q7, It is a very helpful way to study and get information or whatever you want to find
Demographics: Sotho, Undergrad, 22-25 yrs, high seg, Male

ID-1890, Q1, The labs cannot accommodate all the university student it is always packed and full, Q2, WebCT, Q3, Don't have computers its difficult living in rural areas, Q4, , Q5, ,Q6, Really help with my assignments and projects Q7,

Demographics: Sotho,Undergrad,, low seg, Male

ID-1912, Q1, , Q2, , Q3, nothing, Q4, internet, Q5, nothing,Q6, make studying much easier Q7, Uovs really needs to store old exam paper on the intranet so students do not have to go hunting for them in the library

Demographics: ,Postgrad,,

ID-1932, Q1, sometimes there are no open computers available in the labs, Q2, computers, Q3, nothing, Q4, internet connection is fast, Q5, Its very time consuming,Q6, available study notes on WebCT makes studying easier Q7, no

Demographics: Afrikaans,Undergrad,,average seg, Male

ID-1937, Q1, There is a too little amount of computers on campus. Usually you must wait for a computer and wait in a long row to receive your printed pages, Q2, I can do research for assignments on campus. I don't need to drive to a internet café, Q3, I don't have access to the internet at my home, Q4, I can do my work on my computer at home. Only excel, word, etc. No internet work., Q5, ,Q6, Getting extra information. Typing assignments, etc Q7,

Demographics: Afrikaans,Postgrad,<22 yrs,average seg, Female

ID-2018, Q1, internet, Q2, software, Q3, location, Q4, computers, Q5, Things not valuable,Q6, make studying easier Q7, No

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-2032, Q1, When the labs are full and when I am not able to save my data, Q2, More software applications that make it easier to access the computers, Q3, Because I do not have a computer of my own, Q4, My cellphone, Q5, When the server is slow,Q6, It improves my learning and makes studying easier Q7, The limited access to certain academic resources

Demographics: Setswana,Undergrad,, high seg, Female

ID-2039, Q1, Sometimes the labs are completely full and one has to wait to use a computer, Q2, There are a number of computer labs so if one is full then the other labs can be checked, Q3, There are no internet cafes or public libraries in walking distance, Q4, , Q5, sometimes the way in which we are requested to perform an assignment, all the moving around requested by the lecturer,Q6, I find ICTs valuable for being able to learn new things and it makes it very simple for me to do my work on an ICT instead of using books and writing everything Q7,

Demographics: English,Undergrad,, high seg, Male

ID-2042, Q1, Labs are sometimes full because of student doing their (Assignment, WebCT). So if you want to do something you have to wait., Q2, I usually go to the lab in the afternoon or in the evening because the internet is much faster at that time, Q3, , Q4, , Q5, Not finding the right information at the right time basically I can just say ICT is very helpful,Q6, Find articles for my assignment Q7, It may be we had computers in our residence, then we use computers at any time

Demographics: Setswana,Undergrad,, low seg, Male

ID-2066, Q1, Sometimes the labs don't open early enough, Q2, There are always enough computers, Q3, N/A, Q4, N/A, Q5, printing often causes problems ink, paper,Q6, easy, neat and quick assignments Q7,

Demographics: Afrikaans,Undergrad,22-25 yrs,average seg, Female

ID-2079, Q1, nothing, Q2, internet the access is easier, Q3, no valid reason, Q4, no valid reason, Q5, N/A,Q6, Easy to find and explain words or terminologies that I don't understand Q7, No I don't have comments

Demographics: Sotho,Undergrad,22-25 yrs, low seg, Female

ID-2080, Q1, Nothing, because they are there for us to use for everything and available too, Q2, I get to find out information I need and I get a lot of help from the internet and the backround knowledge I have of computers, Q3, Because there are no computers I can go to off campus. Campus is the only place I can use the computer at, Q4, Nothing, as I have no access to it off campus, Q5, you sometimes cant get the relevent information that is needed,Q6, The notes, quizzes posted there and the access to internet makes it easier to get the information needed. Q7, It is very helpful to all the student who are able to access it and for our future employment too as we gain skills and knowledge

Demographics: Setswana,Undergrad,22-25 yrs, low seg, Female

ID-2084, Q1, Might just have to wait for a free computer, Q2, computers and internet, Q3, Don't have my own so have to use someone else's which is not always available, Q4, Just having a computer available to use, Q5, Spend a lot of time reading through unrelated information, Q6, Makes assignments etc so much easier. Easier to find info than books excessive amounts of info available Q7, No

Demographics: English, Undergrad, <22 yrs, average seg, Female

ID-2095, Q1, Nothing except when all the computers are full that makes it very hard for me because sometimes I will be running out of time for my assignment, Q2, When I arrive early in the computer centre, Q3, because I don't have one, Q4, Nothing really, Q5, Nothing is a waste of time for me really I find the information very useful all the time except when I go to a certain email address and then it refers me to another one until x5, Q6, The webct notes. Typing assignments Q7, Build more computer labs and please stop making the computer labs so cold and open it 24 hours

Demographics: English, <22 yrs, average seg, Female

ID-2097, Q1, The fact that computer labs are always congested and I can't find time to do my assignments in advance, Q2, computer labs, Q3, location, Q4, the computer lab on campus, Q5, Sometimes the information received is not relative and applicable to the topic, Q6, makes my studying easier Q7, All or most learners need ICTs because it makes learning fun, easier and stress-relieving

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-2106, Q1, Not enough computers for the number of students, Q2, Having an internet connection in my room at the residence, Q3, internet connection sometimes goes offline, Q4, Internet connection points in my room at residence. Easy access to the internet on my cellphone, Q5, A lot of material that is not relevant or academic. Takes long to sort through info on the internet, Q6, Submitting online quizzes. Lecturers that submit class notes online Q7,

Demographics: English, Undergrad, <22 yrs, high seg, Female

ID-2119, Q1, N/A, Q2, labs, Q3, N/A, Q4, N/A, Q5, We tend not to know how to spell words correctly, we always use spell check, Q6, Save time Q7, No

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-2140, Q1, The fact that sometimes the PC's are well occupied, Q2, computers, Q3, I do not own a computer and my computer in my home town does not have the net, Q4, the net, Q5, nothing, just it is slow at times, Q6, Improving learning and better understanding Q7, nope

Demographics: English, Undergrad, average seg, Female

ID-2153, Q1, nothing, Q2, The computer labs on campus and internet that's available in our individual hostel rooms, Q3, nothing, Q4, The computer we have in our hostel room with internet cable, Q5, Its quick and easy, Q6, It saves time Q7,

Demographics: Afrikaans, Undergrad, <22 yrs, high seg, Female

ID-2160, Q1, Sometimes (rarely) a problem with the internet service provider, Q2, I currently have access to all the computers, internet, software and resources on the university's website that I need especially the latter is very helpful, Q3, Logostics, but only when I need a service/program that cannot be run by my computer, Q4, My ICT - needs are very basic, thus I use the internet while on campus and do assignments, reports, etc, at home. Thus set - up makes it easy, Q5, Sometimes have to sort through a lot of information, but it still is quicker than using the library. Sometimes problems about credibility of sources on the net/electronic journals I'm not sure about all the resources available, and whether it's, Q6, Relevant and good sources. Easier to control/have access to/analyse data. Get more done in less time - am able to work quicker and neater. Basically, the aspects most valuable to me is the fact that I have access to more resources, but also abt Q7, I think it would be to my benefit to learn more about the types of ICTs available and what I can do with it.

Demographics: Afrikaans, Undergrad, <22 yrs, low seg, Male

ID-2171, Q1, , Q2, , Q3, There are not facilities near by and I do not need to access if off campus, because it is for academic purposes, Q4, , Q5, very helpful, Q6, makes studying easier Q7, very helpful

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-2183, Q1, computer labs are sometimes very full, Q2, It's a quick way of getting information and a way to spend time practically between classes, Q3, Not hard, Q4, quick and affordable way to do projects, Q5, none, Q6, makes doing projects easy Q7, none

Demographics: Afrikaans, Postgrad, <22 yrs, low seg, Male

ID-2228, Q1, standing in long queues to get a free computer, Q2, Some courses have allocated time slots for students to use labs specifically., Q3, having certain services like WebCT aren't running, from campus. Sometimes WebCT is down., Q4, Not having to wait for a free computer., Q5, They are VERY under utilised. Mainly used to posting notes, Solutions and on occasion a past paper.,Q6, Its sometimes the only means by which lecturers communicate with students. Q7, no

Demographics: English,Undergrad,, high seg, Female

ID-2232, Q1, Too much demand for computer use and too little supply., Q2, Easy access, helpful assistants, Q3, Connection cuts and takes long, Q4, Telephonic assistance, Q5, Nothing,Q6, It helps me remember the information. Q7, I love it.

Demographics: English,,<22 yrs,average seg, Female

ID-2233, Q1, I'd say when there are many people and less computers, Q2, The lab assistants who are always willing to help, Q3, I never get the time, Q4, The availability of computers anywhere, Q5, ,Q6, The quizzes and the self-test assessments Q7,

Demographics: Zulu,Undergrad,22-25 yrs,average seg, Female

ID-2234, Q1, There is always congestion, it is always full or a lack of computers. We hardly get peace of mind, noisy., Q2, Access to the internet, I can do more research, Q3, For internet, I need to travel to an internet café that is far from my place and is costly, Q4, Nothing, I can't access ICTs off campus, I can't access the internet off campus., Q5, Half the time it is unavailable,Q6, We get lecture slides from our lecturers, therefore it makes studying easier. Q7,

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-2266, Q1, I don't experience any problem, my campus makes sure that there are excess, Q2, To make research assignments and access my lecture notes, Q3, I have the computer, but I don't have internet, Q4, I live next to the campus, I often come and do my work, Q5, It is part of academic, so everything is important,Q6, To communicate with my peer, sharing information and it helps a lot when we are writing tests. Q7, Think for introduction of ICT for academic

Demographics: Sotho,,<22 yrs, high seg, Female

ID-2274, Q1, Software, Q2, Internet, labs, Q3, Software, Q4, Internet, Q5, It damages my eyes,Q6, make my work easier, improve computer skills Q7, We sometimes experience problems when submitting our assignment via ICT, please can you do something about it because our assignments are always late, Thank you.

Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-2292, Q1, It hard to access the internet lab sometimes because we have few computers with internet access. There is usually a peak hour or hours of which you stand in a long queue to access the internet., Q2, , Q3, There are limited opportunities, e.g, I have to share a computer with 6-10 other individuals., Q4, Finishing research reports in time and using time for learning something over the internet than lazing around, Q5, none,Q6, quick and less time consuming Q7, I wish individuals could get access to ICT at a tender age and grow up with the competent skills. Not everyone gets the opportunity to use or even bother using them. They really make life a little or a whole lot easy.

Demographics: Zulu,,, high seg, Female

ID-2293, Q1, when its busy theres no space, Q2, , Q3, nothing, Q4, i have my own laptop and internet access, Q5, nothing,Q6, its always available Q7, it helps alot

Demographics: English,Undergrad,<22 yrs, low seg, Female

ID-2327, Q1, nothing, Q2, labs, Q3, Limited access to computers in my community, Q4, n/a, Q5, n/a,Q6, makes studying easier Q7, really contributes a lot towards one's studies

Demographics: Xhosa,Undergrad,,,

ID-2331, Q1, majority of students do not have access outside campus - overcrowding and demand is high, Q2, computer courses, Q3, transport to access area and time limit as most places close early and mostly overcrowded, Q4, None, Q5, eyes& back straining- searching information for long,Q6, study is easy and information is always there - even sometimes the search might take long Q7, relevant all the time

Demographics: Setswana,Undergrad,26-42 yrs, high seg, Male

ID-2334, Q1, , Q2, , Q3, , Q4, , Q5, i love it, the problem is that i'm not used to it.,Q6, it makes me study easy because i also get lecture's notes to make me be sure of my own notes. Q7, yes , they gave us one day from the whole week to learn computer which makes it hard for student like me

which is our first time to even touch a computer.

Demographics: Other South African language, Undergrad, <22 yrs, average seg, Male

ID-2335, Q1, The computer labs are over-crowded and many computers are out of order. Accessing the university's intranet isn't a problem. But internet access is confined to a smaller lab and the connection is very slow., Q2, , Q3, Because I have a wireless internet connection, it can be influenced by the weather. so my connection is sometimes down when it's windy/raining., Q4, The fact that I have a laptop means I can take my work anywhere, which means I'm not confined to one room when working., Q5, The information that I need isn't always available to me when I need it. Because ICTs are used in conjunction with traditional teaching aides, I sometimes don't receive paper-based information because I assume it is available online., Q6, If I lose information from my laptop, I can find it again online. Receiving standard lecture slides from lecturers means I have all the information that they deem important. Increased variety of sources of information. Q7,

Demographics: Afrikaans, Undergrad, <22 yrs, high seg, Male

ID-2373, Q1, Sometimes, the internet takes its time to open, Q2, I can search for information and be able to type my assignment., Q3, I have to pay for internet cafes., Q4, When I am home and I need to do my work, I am able to do so., Q5, Upload assignments, Q6, Access to lecture notes. Read about notices on WebCT. Q7, It is very useful. Sometimes the computer labs that are available are not enough for all the students.

Demographics: Other South African language, Postgrad, <22 yrs, high seg, Female

ID-2405, Q1, internet goes down, labs too full, Q2, labs, Q3, location is too far, Q4, internet café, Q5, nothing, Q6, webCT assessments, lecture slides, notes, discussions, Q7,

Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-2457, Q1, , Q2, computers, internet, Q3, , Q4, , Q5, its very slow when there are many users, Q6, accessing lecture slides, and being able to communicate with them Q7,

Demographics: Zulu, Undergrad, , ,

ID-2506, Q1, nothing, always accessible, Q2, orientation at beg. a year, Q3, electricity failures, expensive internet prices, Q4, , Q5, nothing just when the systems are down, Q6, 1) it's easy to access. 2) helps keeping notes for when one misses a class. 3) it's there to help when an assignment couldn't be done at home Q7, nope. Just that ICT is a good idea & makes life easier.

Demographics: , Undergrad, <22 yrs, average seg, Female

ID-2510, Q1, its actually easy, so nothing makes it hard., Q2, wide variety and student assistance is the computer labs., Q3, finding internet cafes, Q4, internet access as to me, Q5, Ques that re outside labs sometimes - waste times for studying, Q6, easy access, therefore more time for studying Q7, overall, it is very student friendly and easy to access. It makes university studying a whole lot easier save us time and ink.

Demographics: Sotho, Undergrad, <22 yrs, low seg, Male

ID-2518, Q1, Sometimes when I get here I find that computers are not working or the internet is not accessible., Q2, I get more information that can help me with my projects. Computer labs open 24 hrs & software, I become creative as I have examples from the internet., Q3, internet, location, software, Q4, computers, internet, Q5, nothing I like everything about ICTs, Q6, To get information from internet, computer use in typing assignments, images (download), sounds, animation and effects allow creativity Q7, z

Demographics: Xhosa, Undergrad, 22-25 yrs, low seg, Male

ID-2526, Q1, the large number of people in lines waiting to use computers, Q2, having a student card that gives me access to any computer, internet around campus and residences., Q3, I don't know where else I can get access to ICTs., Q4, knowing people who know about where I can find ICTs, Q5, I don't like the fact that using ICTs for learning sometimes is just taking information from the textbooks and putting them up on the computer., Q6, I can find past exam papers. I get to communicate with my lecturers outside classrooms, they make learning easier. Q7,

Demographics: Xhosa, Undergrad, 22-25 yrs, high seg, Male

ID-2534, Q1, the computer labs are normally full or some computers are broken and out of order. Sometimes there's no internet., Q2, helps with assignments and tutorials. Helps in improving academic marks by doing research., Q3, you have to pay lots of money at internet cafes., Q4, , Q5, you can find wrong information on the internet sometimes. Server is sometimes down when you need it., Q6, doing research about the courses I'm doing to help in also getting good grades on my

assignments. Accessing chemistry on webCT. Q7, I really appreciate that you guys are doing this research, I think that internet access should also be made available at the Wits residences so that people with computers can access ICT from their rooms, this will limit shortage of computers in Demographics: Sotho, Undergrad, <22 yrs, high seg, Male

ID-2535, Q1, there are many students who often spend a significant amount of time doing required assignments on daily basis and less numbers of computers, Q2, storage of assignments on computer disks or flash drive which then just gets printed using ICT's on campus., Q3, I don't have a computer. I always have to book for a computer, where I normally book there is no assistance when having difficulty with the computer., Q4, my fair knowledge of accessing ICT's. No long queues., Q5, I am limited due to lack of adequate knowledge of ICT's, Q6, I access information quickly. I am more likely to remember information from ICT's than from studying from a textbook. Q7, Demographics: Zulu, Undergrad, 22-25 yrs, high seg, Male

ID-2591, Q1, there is always a long queue, following a long wait for the use of the ICTS, Q2, it is very helpful to do research during free time, Q3, , Q4, most convenient to contact lecturers and get information, Q5, I like using ICTS, however sometimes it is difficult to access some sites like webct because the server is down, Q6, ICTS makes work much easier. Lecture notes made available enables us to pay more attention and enables us to write down lecturers explanations and additional notes. Q7, Demographics: English, Undergrad, , high seg, Male

ID-2606, Q1, lack of iburst technology , shortage of machines and software and space. Systems/ servers being down/under construction. Having to go to different departments to access a service eg. Printing fees office and CNS etc., Q2, easy access to passwords/login info - helpful staff, Q3, software, slow internet and cost!! , Q4, friends with quick internet connections, location and personalised setup of my computer., Q5, slow processors, lectures that don't accept ICTS presentations eg. Powerpoint, Q6, quick timesaving , can increase clarity and be creative and it reaches skills that can be applied elsewhere Q7, Please make iBurst or wireless internet connections more available and affordable Demographics: Afrikaans, Postgrad, <22 yrs, low seg, Female

ID-2617, Q1, too many people and too little computers, Q2, having a username, Q3, poor or faulty connections. No electricity in the area on random occasions., Q4, Wireless connection is fast., Q5, , Q6, improve learning. Makes studying easier and faster Q7, Demographics: English, Undergrad, 26-42 yrs, high seg, Female

ID-2631, Q1, some softwares that we need are not installed, eg. I'm a computer science student and at times I need to program. The compilers that I need are not available everywhere., Q2, I get to learn a lot from the internet and do a lot of practice, Q3, few computers and it is hard to get the key. At 12 the lab is closed., Q4, I get to access my e-mails, Q5, using word or other spreadsheets, Q6, using search engines and specialist software Q7, make them available to everyone, this means we need more Demographics: Zulu, Undergrad, 22-25 yrs, high seg, Female

ID-2634, Q1, , Q2, computers, Q3, , Q4, , Q5, I access E.journals and books from the internet, which saves my time that would be wasted looking for books on library shelves., Q6, the use of online dictionaries, machine translations and the whole process of simultaneously searching while typing your own work, works perfectly well, thus, making the learning even much easier and enjoyable. Q7, we have the privilege of having access to and using these new technologies, which are very helpful to us. Our greatest debt, which it is a joy to acknowledge is to those who put this system in place for this university. Demographics: English, Postgrad, 22-25 yrs, low seg, Male

ID-2650, Q1, software and internet sometimes can be really slow, moreover, most of the times it is difficult to find a computer because it is always full., Q2, research and type my academic work, Q3, there are no computer/internet centres nearby and when they are around, they are expensive., Q4, , Q5, typing, I think I can write my essays, Q6, research in the internet helps me for my courses. Q7, it is helpful since my academic work has to be backed up i.e. references and neatly typed to show that I am well-presentable. Demographics: Other South African language, Undergrad, 22-25 yrs, high seg, Female

ID-2652, Q1, mostly when computers are in demand, and therefore it's sometimes difficult to get access to one. Apart from that, there is nothing difficult or hard when it comes to accessing

computers, Q2, they enable me to browse the net, research information and mostly do academic work(eg. typing essays), Q3, it's really not difficult, it's just that to use computers in internet cafes, one needs to pay to use those computers. So it's better to use the one's on campus., Q4, browsing the net, typing assignments and C.V's, Q5, nothing really, they are a fun bunch to use., Q6, the internet helps me search for important information, I can also type, save and send my assignments to lecturers and that's time and cost efficient. Q7, like I mentioned earlier, they are quite fun and entertaining, and at the same time allowing you to learn.

Demographics: ,Postgrad,<22 yrs,average seg, Male

ID-2653, Q1, long queues and large amount of people trying to access the net at the same time (computers), Q2, internet, Q3, usually expensive because of location, Q4, Cellphones, Q5, nothing, everything is helpful,Q6, make studying easier Q7,

Demographics: Xhosa,Undergrad,, low seg, Female

ID-2677, Q1, software, Q2, internet, Q3, software, Q4, internet, Q5, things that I can do properly without technology,Q6, improve my learning and makes it easy Q7, lectures should encourage us to use ICTS regularly as it is easier for use and saves time

Demographics: Sotho,,, high seg, Male

ID-2683, Q1, labs get too full., Q2, , Q3, getting confused with trying to find stuff, not clear definition of getting things i.e notes, past papers etc., Q4, using it often enough, getting time to figure it out, Q5, Not sure. On time of delay of dial up when researching,Q6, access info relevant to most courses. (Proquest, electronic journals , etc.) Access to lectures, esp. if unable to get to University. Q7,

Demographics: English,Undergrad,,average seg, Female

ID-2730, Q1, I think prominent reason is that mostly the labs are full and one has to queue for at least 15 minutes before using those facilities. As for the internet the connectivity is poor and slow, in turn consuming time, Q2, there are no more than one ICTS facilities, than they may be far apart, one can go somewhere on campus to use them, Q3, nothing much really, primarily I do not have internet off campus, I thus have to connect somewhere to use the internet, Q4, my laptop, cellphone and a desktop at home, Q5, tend to play more games and chat on mxit etc.,Q6, certain presentations and articles that perform to my course and help me understand what I'm learning better Q7, I think we need to improve it, make it more accessible to students and incorporate it on our daily lectures

Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-2734, Q1, sometime is when the accessing technique is changed without me knowing it. And when the lab is full and there is no space, Q2, , Q3, lack of money to get the internet café, Q4, if I have money to get into the internet café, Q5, typing, it's sometimes difficult if eyes are not working very well,Q6, it makes studying easier and interesting Q7, no

Demographics: Other South African language,Undergrad,<22 yrs, low seg, Female

ID-2746, Q1, my mother is often on her computer and the library computers are most often occupied, Q2, having access to my mother's computer, Q3, don't have a P.C at home. Going elsewhere is too much of a mission, Q4, nothing- sometimes borrow a laptop, Q5, they are often hard to access and technologies are unreliable,Q6, printing lecture notes provided online allow me to pay attention more in lectures Q7,

Demographics: English,Undergrad,22-25 yrs, low seg, Male

ID-2771, Q1, , Q2, , Q3, location, Q4, going to the public library, Q5, music files, video files, games and chat,Q6, typing neat work, better spelling and grammar and storing important information Q7,

Demographics: Zulu,Undergrad,<22 yrs,average seg, Male

ID-2772, Q1, because most of the time they are occupied, mostly they are occupied or some computers are not working, Q2, , Q3, , Q4, it's easy for me to access internet, no-one has to interrupt me because I'm using my own computer, Q5, completing a computer based quiz game,Q6, it's easier to access lecture notes and search information for an essay Q7, it helps me improve my thinking, and helps me understand my work

Demographics: Other South African language,Undergrad,<22 yrs,average seg, Male

ID-2776, Q1, , Q2, all of them, Q3, location, there aren't many internet cafes, Q4, I am grateful for the internet café that is in my location, Q5, People abuse ICTs, using it for non-academic(too much) activities,Q6, there is a wide variety of sources of information to choose from, it improves my skills, opened my eyes. I learn more than just studies over and above making my studies easier Q7, ICTs can improve one's results as much of what we learn in University is based or can be broadened using

ICTs

Demographics: Setswana, Undergrad, <22 yrs, low seg, Male

ID-2780, Q1, nothing, it is very accessible and easy to use, Q2, close to my lecture rooms and it is open all day, Q3, nothing, Q4, I can access it at home, Q5, nothing, sometimes the internet can be slow, Q6, drawing up spreadsheets is made easier and analysing data with specialized stats programs. Articles are also easily available on the internet and allows you to get information quicker and easier than searching through books in the library Q7,

Demographics: English, Undergrad, <22 yrs, high seg, Male

ID-2783, Q1, , Q2, student assistants for operating computers and more computers, Q3, , Q4, , Q5, z, Q6, make information easily accessible Q7, not really, but I would say it wouldn't be as easy as this if I wasn't at Varsity

Demographics: Other South African language, Undergrad, <22 yrs, low seg, Female

ID-2790, Q1, too few machines, Q2, , Q3, accessibility, Q4, , Q5, sometimes can't differentiate between academic and non-academic work, Q6, make studying easier by providing more in-depth explanation Q7,

Demographics: , Undergrad, <22 yrs, average seg, Female

ID-2801, Q1, there is not enough on campus, therefore I don't bother to try using. Also not any instructions if there are problems or how to use it., Q2, nothing, except finding books in the library, Q3, when the power is off or internet connection is down or I have reached my CAP, Q4, it's easily available and there at anytime and I have exclusive access, Q5, things are a waste of time, not related to my course and I can never find the appropriate stuff on the internet. What I don't like is that using ICTs for my learning through the University is just not possible. More courses need to use WebCt., Q6, when I do find stuff, it helps retention and understanding Q7, learning should involve more technology because I use it on a daily basis, it is very valuable and I wish more stuff was available to assist my studying

Demographics: English, Undergrad, , high seg, Female

ID-2854, Q1, lot of people are using school computers so sometimes you have to stand in a line for a computer or wait for people to finish using computers and this makes it hard to access ICTs on campus, Q2, , Q3, it's hard for me to access ICTs off campus because I don't have a computer and I do not have enough money to use an internet café, Q4, my friend help me by borrowing me their laptops when I want to type an essay, Q5, , Q6, using the internet Q7, ICTs is important for typing assignments and checking of information on the internet

Demographics: Setswana, Undergrad, <22 yrs, average seg, Female

ID-2856, Q1, there are a small amount of computers and we have thousands of students who want to use them, Q2, if I go to the ICTs in the morning when there are only a few people there, Q3, the fact that they are expensive, Q4, io can do all my assignments, when it is convenient for me, I don't have to wait for the library to open, Q5, they are easier to use and you can recall info better, Q6, they make studying easier Q7,

Demographics: Setswana, Undergrad, <22 yrs, high seg, Male

ID-2861, Q1, do have a problem accessing ICTs on campus. Almost every school in Wits has a computer lab with internet access and number of central labs like CNS, Q2, computer, internet and labs, Q3, lack of internet access at residences, Q4, computers and libraries, Q5, sometimes there is too much information on the net, which wastes a lot of my time going through it to get what I want, Q6, example and questions on the net and the online tutorials related to what I'm doing Q7,

Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-2952, Q1, Internet, its not that hard but it takes a very long time for web pages to open., Q2, computers and internet, Q3, The only place I can access ICTa is on campus, Q4, , Q5, , Q6, Q7,

Demographics: , Undergrad, <22 yrs, high seg, Male

ID-2954, Q1, There aren't enough computers and we have to queue to access a computer., Q2, We really need the internet to access education resources, like journal articles and important reading material., Q3, I have a computer at home but I do not have internet., Q4, I have no internet access at home, Q5, none, Q6, having access to the internet Q7,

Demographics: Setswana, Undergrad, <22 yrs, high seg, Female

ID-2994, Q1, The number of computers are limited thus we or I have to wait in line., Q2, Booking time labs, Q3, safety of the surroundings makes it hard to go to internet café's, Q4, mobile phone, Q5, I

dislike pasting outlines on the net which take hours if we try to login,Q6, improves my studying Q7, no!
Demographics: Sotho,,<22 yrs,average seg, Female

ID-2997, Q1, slowness of computers when opening web pages or if the server is down., Q2, patience, Q3, I have no internet connection, have never applied for wireless with server provided at our residence, Q4, I get internet access back at campus, Q5, overload of a website (cannot be avoided),Q6, Improve my understanding of a subject and general knowledge Q7,
Demographics: Zulu,Undergrad,22-25 yrs, high seg, Female

ID-2998, Q1, , Q2, all of above, Q3, , Q4, , Q5, ICT is generally a preferred learning method,Q6, more interesting/ exciting compared to older methods Q7,
Demographics: English,Undergrad,, high seg, Male

ID-3002, Q1, internet is sometimes slow, but its not really a problem., Q2, software is very user-friendly, Q3, , Q4, location convenient, Q5, ,Q6, webct lecture notes, websites- info for essays, emailing lecturers, word processing programmes - assignments and essays. Q7,
Demographics: English,Undergrad,<22 yrs, low seg, Female

ID-3012, Q1, there aren't enough available computers, Q2, , Q3, , Q4, , Q5, ,Q6, There is a lot of info available, and its easier than finding books Q7,
Demographics: English,Undergrad,, low seg, Male

ID-3041, Q1, They are usually full or the equipment is not working (printers don't have paper, can't store information - floppy's and flash drives cannot be used and you can't be expected to type out a 6 page essay in a full noisy crowded computer lab and a, Q2, The fact that the loading of print credit has been made so much easier, not such a long, tedious process and that your password is your id number not the codes I never could remember. There are generally enough computers labs but sad that there, Q3, Many internet cafes are in town so I usually have to catch a taxi to check my email messages. The only internet café around my house is expensive and not really reliable., Q4, The fact that I don't have to go to school to access my messages., Q5, The internet may be slow sometimes and finding information may be a long process due to having to sift out the information you don't want from web search engine results but generally they are the best and fastest way to get information.,Q6, Make studying easy and improves understanding of the study materials. Q7, I think there should be general computer courses for students who wish to catchup on skills that they missed out on due to having disadvantaged backgrounds.
Demographics: Zulu,Undergrad,26-42 yrs, low seg, Female

ID-3051, Q1, Lack of computers available for use. Some computers are out of service putting pressure on working stations as more people need to use computers but availability is low., Q2, Software and internet access. 1, Q3, Time and availability of the computer., Q4, location, Q5, ,Q6, Easy, quick access to information. Quick communication with lecturers and fellow students. Q7,
Demographics: English,Undergrad,22-25 yrs, high seg, Male

ID-3053, Q1, time, Q2, , Q3, can not afford persona; computers, Q4, location because I live near school, Q5, it is complicated sometimes,Q6, It makes me understand what I would not have understood from a lecture. Q7,
Demographics: ,Undergrad,<22 yrs, low seg, Female

ID-3055, Q1, Nothing makes it hard, all is well, Q2, Computers in the labs based on east and west campus and internet explorer and windows xp help as they are easy to use., Q3, Internet access is a problem since I can't afford a telkom., Q4, I've got my own pc at home, Q5, ICT to me, is very important,Q6, Slides for courses are easier for summary, internet research easier than library, every job requires you to be computer literate. Q7,
Demographics: English,Undergrad,26-42 yrs, low seg, Male

ID-3079, Q1, when system is down or the servers are down or when some computers are not working then there is an extra long queue., Q2, they close by, they useful when assignments need to be typed., Q3, , Q4, the computer is at home so when I need to work I can work at any time and get the work done., Q5, Sometimes they are slow and don't do what you want them to do.,Q6, They are very helpful and help get work done. Q7, no
Demographics: English,Undergrad,<22 yrs, low seg, Male

ID-3114, Q1, because computers are not functioning properly, always busy, they are broken., Q2, Not applicable., Q3, no internet cafes available, Q4, not applicable, Q5, things that are not necessary ie those e-mails that tell you about weddings, wishing you happy birthdays. Those are not relevant.,Q6,

improve my learning Q7, No

Demographics: Xhosa,Undergrad,26-42 yrs, high seg, Male

ID-3124, Q1, computer are few, Q2, It helps to research for jobs or doing assignments., Q3, because we cannot afford to pay for it., Q4, there is no help library to my area., Q5, there is no easy way to communicate with others because they don't have those.,Q6, they make me very current about things over the world. Q7, It is easy to study with difficult problems.

Demographics: Xhosa,Undergrad,22-25 yrs,average seg, Female

ID-3133, Q1, , Q2, , Q3, There are no relevant provisions made that are accessible, Q4, nothing, Q5, There is nothing that I don't like about ICT except for the fact that we are not provided with computer equipments in this university. Something must be done,Q6, When I have been lucky and accessed the ICT, I find it very useful. It makes the learning process very easy especially when one is conducting a research Q7, ICT is very crucial for our studying. The university deliberately ignores this. It is makes a little or no endeavours to assist us in our learning. It's a very terrible situation in this campus.

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3141, Q1, Because we don't have access to computer lab (PR3) so we gain access at the library. You must go at the library computer for only 45 minutes., Q2, Staying until afternoon., Q3, Because my mother is always busy in work., Q4, , Q5, nothing,Q6, Improve my learning and make studying easier. Q7, Please supply us with more computer labs, please.

Demographics: Xhosa,,, high seg, Male

ID-3142, Q1, Because there are few computer labs and library has few computer catered for large number of students, Q2, nothing, Q3, I live far from community centers, libraries and internet café, Q4, , Q5, Don't have them,Q6, My course requires me to make Powerpoint presentations and create other documents, ICTs helps me to increase my knowledge and skills in these areas Q7, No

Demographics: Xhosa,Postgrad,22-25 yrs, low seg, Male

ID-3153, Q1, Shortage of computers and lack of access to computers in my faculty, Q2, Search information on the internet, it helps me in learning, Q3, I use my friends computer if I want to connect to the internet but if he is not around I'll have to wait for a long time, Q4, I will have to pay too much money, Q5, I don't like to play music and show porn pictures in my computer,Q6, If I don't find information on library or if there are no books I simply go to the internet to find information Q7, I can be very grateful if there can be additional computer lab in my campus because lack of computers makes more students graduate without knowledge of computers

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3183, Q1, It is the number of computers, Q2, Offices, Q3, No access in computers out of campus., Q4, Library., Q5, N/A,Q6, Communication with lecturers by email and retrieval of valuable information in the internet. Q7, We don't have access as students in the internet.

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3206, Q1, Because computers are not many., Q2, Going to library, Q3, Because I don't have computer, Q4, , Q5, ,Q6, makes studying easier Q7, No

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Female

ID-3258, Q1, Many students compete for few computers, Q2, I'm being helped when I booked for computer use very early, Q3, Computers are few and they don't have internet, Q4, Early booking is helpful, Q5, I don't like anything that is wasteful on my time like playing unnecessary games,Q6, When I search information on computer I usually get the relevant one I write correct spelling and sensible sentences because computer correct me when I made a mistake Q7, Definitely not

Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Female

ID-3268, Q1, It's only because there is a lack of computers in my campus. The computers are very few, Q2, Nothing because everything related to education is poor in this campus, Q3, , Q4, , Q5, No it's valuable and it helps me a lot, to know information of the world and other things,Q6, When I miss to attend a class then ICTs can help me by providing me with information about the whole chapter and also provide some many examples Q7, No, all I know is enough

Demographics: Xhosa,,, low seg, Female

ID-3283, Q1, It is not hard, Q2, My friends, Q3, It is because I don't have one of my own, Q4, My friends, Q5, I like everything,Q6, It can help me gather all the information I need Q7, They are very

helpful. They are an important source of education. They make it more easpire to aquire information
Demographics: Sotho,Undergrad,<22 yrs, low seg, Male

ID-3288, Q1, They are few ICTs on campus, Q2, Being free, Q3, My friends and family don't have computers, Q4, , Q5, Sometimes they give you irrelevant information,Q6, Makes studying easier. Makes finding information easier Q7, It has helped me a lot
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3296, Q1, The are less computers with internet. There limited labs. Library cannot facilitate every one because of bad condition of computers, Q2, I get access by attending classes, Q3, There are no ICTs at home, Q4, Nothing, Q5, Nothing,Q6, Make studying easy and improve the level of knowledge Q7, No
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3306, Q1, Sometimes, you don't find internet on the central computer lab. Sometimes, it is always full or occupied by other students or it is closed due to technical problems or electricity ?, Q2, Mostly work related, questions about how to prepare for interview, and about my career and also academic wise, Q3, I don't have a computer at home. At the library there are countless and always occupied by others, Q4, nothing because I don't have any access to them off campus, Q5, Always playing games. Displaying nude pictures on the screens,Q6, Learning to get through internet. I think; also chatting with peers can improve my learning through ive never got a chance to do it Q7, Yes few computers in my institution is the big issue that results in many students not having access to the internet and ICT, and also the fact that sometimes you don't find internet in the computer lab is a problem to me.
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3307, Q1, , Q2, I usually do booking in the library in order ro access into the internet, Q3, no internet access, Q4, spare my time during weekends, Q5, finding less information,Q6, can easily & safely store my work. Motivate my learning since I do not read books at all times Q7, n/a
Demographics: Sotho,Postgrad,22-25 yrs, high seg, Male

ID-3310, Q1, lack of computers, Q2, by booking, Q3, I cant afford to pay an internet café, Q4, there is no help, Q5, it is not easy to access,Q6, they make learning to be improving Q7, they must increase access
Demographics: Xhosa,Postgrad,22-25 yrs,average seg, Male

ID-3329, Q1, time limits & less resources, Q2, time table, Q3, limitations & no funds to pay for services, Q4, communicate with friends/colleagues, Q5, icts are very helpful. There's nothing that wastes time with them,Q6, assignments to be online. Communication with lecturers & the institution as well Q7, need more training on icts use
Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3366, Q1, internet, Q2, soft, Q3, internet, Q4, , Q5, ,Q6, Make studying easy Q7,
Demographics: Xhosa,,<22 yrs, low seg, Male

ID-3376, Q1, There are few computer labs and many faculties depends on these labs, Q2, Since I am doing computer science, I have a good access on software, Q3, because I do not have connections outside secondly, those computer outside, are not always connected to computer network, Q4, , Q5, ,Q6, Searching for assignments. Other te.tbooks that are relevant to other courses are advised on the internet Q7, Using ICTs is very helpful you can learn from it, how to install softwares, up load and dowload files
Demographics: Xhosa,Undergrad,22-25 yrs, low seg, Male

ID-3435, Q1, There arent enough for all of as computers, Q2, I book myself early enough to do my work, Q3, It because I live rural area, so they are, Q4, Because I ask to go to town where I can access them, Q5, When someone sends you a message when you work,Q6, You can know everything about the world Q7, They make my studies easy, and I get good marks
Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-3436, Q1, Limited number of computers, Q2, computers because I do most of my work, Q3, I do not have any access to ICTs off the campus, Q4, No, Q5, usually no internet,Q6, search for assignment information Q7, ICTs are helpful to us students
Demographics: Xhosa,Undergrad,,,

ID-3449, Q1, We have to wait labs from other classes. We have to wait for lecturers to use it, Q2, It helps to find more information (eg. South africa's news), Q3, No computer where im staying and I use

it when im at school, Q4, To go to computer shops and pay after finishing my assignments, Q5, Chat with m.it,Q6, Make studying easier, easily to understand Q7, It will be easy if we can use computers everytime we want, not waiting for labs

Demographics: Xhosa,Postgrad,22-25 yrs, low seg, Male

ID-3462, Q1, Theres a lack of computers, and when they are available theres limited time frame to use the net., Q2, , Q3, There are no computers at all and the fact that in rural areas theres no electriscity supply, Q4, Going to internet cafes and visit parents workplace or even at a friends place., Q5, Information that's not assisting me in any way that's being sent to my email,Q6, The search engines that are available for use to conduct research for information and assist us in projects or assignments Q7, The services or access capabilities I personally think should be improved and there labs or more computers to be available for use

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Male

ID-3470, Q1, As students we are a big number whereas computers are few and our library is so small that is what makes all this hard, otherwise we do have access to all we want because labs are available, Q2, All of them are helpful to me because I get internet by using computer, computer are found at lab or library and software is also found in using computer, Q3, , Q4, , Q5, Theres nothing that I do not like about ICTs,Q6, If I don't attend a class I go to internet and find easily the information and also practise the programs that I get problem to understand Q7, Oh the smaller library makes the problem if it can be possible to e.tend our library lab so as to accommodate at list a by number at an hour that is what boring or bothers me

Demographics: Xhosa,Undergrad,<22 yrs, low seg, Female

ID-3478, Q1, computers are less in the library because it the only place for me, less time, Q2, , Q3, less time to spend in the lab, Q4, other student, Q5, Wasting my time not finding information easily, researching more,Q6, To find information that is useful for assignment Q7, No

Demographics: Xhosa,Undergrad,,average seg, Male

ID-10, Q1, is not difficult to access it, Q2, there is no need for help,I access ict at the lab, Q3, I stay in a village where there are no computers around, Q4, there is no help, Q5, non,Q6, the lot of imformation you get in the internet Q7, no

Demographics: Setswana,Undergrad,,,

ID-65, Q1, broken computers in the lab, Q2, general computer lab, Q3, access to a computer, Q4, cellphone, Q5, increases the knowledge that one has about technology,Q6, makes learning easy & interesting Q7, n/a

Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-95, Q1, the general computer lab is often very full & when one actually finds a computer it has no network or the pc doesn't recognise your registration number, Q2, , Q3, there isn't anything that makes it hard for me to use the pc off campus except internet, Q4, , Q5, ,Q6, I can find info I want real fast. Its easier for me to communicate with peers, over a stretch Q7, it would be nic if the university could have more computer labs or install parts in the residences of the institution for easier access & also to make it easier for the students to interact, exchange & access what the institution has to offer a

Demographics: Setswana,Undergrad,22-25 yrs, high seg, Male

ID-111, Q1, only 1 general/central computer lab 4 undergraduate student 75% of students are undergraduates & have to share 1 general lab, Q2, write assignment, research info on the web/internet even write/communicate 2 whoever (lecturer,friends etc) electronically, Q3, you have to travel to town for a internet café (location), Q4, internet & software, Q5, with icts its write knowledge & not verbal knowledge,Q6, large quantities of info especially the internet Q7, no

Demographics: Setswana,Undergrad,22-25 yrs, low seg, Male

ID-116, Q1, not hard as usual,but sometimes computers are off-line,students crowded,internet difficulties & log-in problems, Q2, computers,internet,labs, Q3, n/a, Q4, computers (laptop) internet, Q5, makes access to info easy & readily accessible,Q6, improve your knowledge base Q7, no

Demographics: English,Undergrad,<22 yrs, high seg, Male

ID-123, Q1, they are many users but not enough working computers, Q2, the only way to insure access to icts on campus is either to arrive early or work during the weekends, Q3, the location is bad, Q4, there is no real help besides me going to the internet café, Q5, not really sure,Q6, helpful in

getting info very quickly Q7, no

Demographics: ,Undergrad,<22 yrs,average seg, Male

ID-173, Q1, nothing, Q2, using of cards are user friendly, Q3, nothing, Q4, easy to go to internet café, Q5, chat to people I don't know,Q6, websites info & history eg alexander the great story on website Q7, our nwu mafiken campus should get away with the suggestion that we would soon be paying for using icts. It would be very cruel indeed for us as students

Demographics: Setswana,,<22 yrs, high seg, Male

ID-203, Q1, computer lab is always full of computer users & small number of computer only operation, Q2, communication with friends & family becomes easy school work also becomes easy. I also explore the world through internet, Q3, no computers around, Q4, I learn a lot, Q5, nothing at all, I find it interesting,Q6, I improve my grades a lot Q7, more operating computer should be installed

Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-231, Q1, time available for usage of computer for student (they close too early), Q2, lab assistance in terms of access, computer fast & easier, Q3, internet (not available), Q4, typing info relating to school work, Q5, effectiveness of getting info around the world,Q6, getting relevant info in short period of time Q7, it will be nice to have all software for all available courses

Demographics: Sotho,Postgrad,<22 yrs, low seg, Female

ID-245, Q1, , Q2, I am able to do my school work & finish on time, get the whole info that I need & most of all, helps me to chat with people I didn't know, Q3, its not hard at all because I have the access to use it freely, Q4, the same help as when I'm using it in campus, Q5, I have nothing to worry about using it,Q6, I now have access to so many things, adequate knowledge as well Q7, no, thanx a lot

Demographics: Setswana,,<22 yrs,average seg, Female

ID-254, Q1, they take time to open some websites especially those in botswana, Q2, , Q3, , Q4, , Q5, sometimes you may degress into other websites which are not relevant to your studies,Q6, most of the time they are loaded with info Q7, n/a

Demographics: Setswana,Undergrad,<22 yrs, high seg, Male

ID-255, Q1, sometimes where are viruses on the machines, Q2, free internet access, Q3, financial constraint to access or go to internet café, Q4, I utilise my own computer at home, Q5, none,Q6, you are not left behind as far as technology is concerned. You are also updated with current news & info Q7, most of the activities under b14 are not available for students in the computer lab

Demographics: ,Undergrad,<22 yrs,average seg, Male

ID-311, Q1, The library has a lot of computers, but it is usually occupied and I don't always have the time to wait and I don't have my own computer, Q2, The fact that the library, each faculty and our own hostel has a computer availability, Q3, I don't have a computer of my own, our family shares one., Q4, We have a computer, but not internet, Q5, Nothing much,Q6, It helps with my studies by providing access to a lot of study material Q7,

Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-327, Q1, The availability of a vacant computer on campus, Q2, The fact that there are more than one room with the internet facilities, which can be used by any student., Q3, The lines arent always broadband and then it is time consuming using the internet., Q4, My dad has ADSL at work and I have access to that, Q5, Technology always seems to have a way to complicate things. Computers freeze, information is lost, etc.,Q6, You have all the info you need.. At your fingertips. Q7,

Demographics: Afrikaans,Undergrad,<22 yrs, low seg, Male

ID-359, Q1, Because it hard for me to store some of the information, Q2, I just visit the web, that has the relevant information I need, Q3, The room of my friend, it is always full, Q4, I visit every web I want, theres no limits., Q5, Spending a time in internet, for thing that does contribute in my studies, as in like time wasters,Q6, I get information and I also get benefit with that information Q7, Get information about bursaries

Demographics: Sotho,Undergrad,<22 yrs, low seg, Male

ID-372, Q1, Usually the computer lab is full and there are already rows of people waiting for a computer to open. I wish all computers on campus had an afrikaans spelling and grmmar checker so I could spelcheck my assignments to make them of lighter qualiti, Q2, Internet is fast and easily accessed and the needed software is available., Q3, I have dial up internet, and it is too slow. Sometimes my family disturbs me when im busy. I don't have a spell checker. I live far from campus,

so when I go to campus I stay there for the day, Q4, I can type assignments at home, Q5, Not enough computers on campus, Q6, Find info easier. Assignments are neatly typed. Internet info, gives you info from around the world as well as how trustworthy and old they are, and who compiled them Q7, Demographics: Afrikaans, Undergrad, 22-25 yrs, low seg, Female

ID-394, Q1, Sometimes theres a lot of out-side students (day scholars) and others are from other residential areas of our campus., Q2, If I get up early in the morning when theres not a lot of people around, Q3, I don't have internet, Q4, I normally go to town, Q5, I get to learn a lot of things from the internet that is not available from the book, Q6, I get the opportunity to improve and acquired new skills which helps me to excel master it Q7, Demographics: Sotho, <22 yrs, low seg, Male

ID-423, Q1, Sometimes there are classes in the computer lab and others are full at the time., Q2, , Q3, My computer does not have internet, Q4, I can type more quickly and effectively, Q5, The web offers access to a huge amount of information, but not all web documents are equally credible. It contains mixture of information. It is not like a sholarly journal that is aimed at a specific type of user, Q6, It is very quickly to obtain information. This information covers any topic and varies in quality and depth Q7, ICTs is advanced search options and complex search statements for more accurate and expanded results Demographics: Sotho, Undergrad, <22 yrs, low seg, Male

ID-623, Q1, Time easier training room, Q2, Close to my classes, Q3, Location no wireless, Q4, cellphone - 3G, Q5, RINL - is a watse of time for some of us, Q6, internet for research Q7, Demographics: Afrikaans, Undergrad, <22 yrs, low seg, Male

ID-761, Q1, Internet to be specific, its very hard to access it in the campus cause I don't own any laptop so I have to join a que in the lab each time I want to use it., Q2, Intenet, updates me on social and academic issues, Q3, I don't have any laptop on my possesions, Q4, My cellphone helps me lot, Q5, Useless adverts and competitions on the internet not related to academic studies, Q6, How to manage your time efficiently and copying strategies to distress Q7, No Demographics: Xhosa, Undergrad, , ,

ID-764, Q1, For one to get access to our library computers one has to wait on a cue and at times spending more time on cue which delays one to do his/her task. At times some just give up., Q2, So far now we are having the computer cards used for one to access the internet while at first we had to cue and sign the register and others would be cheating and spending more time on a computer than the time allowcated which is 2hrs., Q3, If there are no internet codes around and here at school I normally use the campus internet because its free, Q4, If I have to do something quickly and the library is closed that means I will have to use the internet café which is near, Q5, They are very helpful and one really needs to know what is happening around the world. They are really a high source of information, Q6, Being able to have more access to internet to get more information. Being able to share that information with friend during our study time Q7, I just wish we could have more access to ICTs and not to wait or struggle to have access to. I think there should be more ICT resources available here on campus Demographics: Sotho, Undergrad, , ,

ID-777, Q1, computers are not enough for students on the campus therefore you will have to queue for a long time, Q2, nothing, Q3, Im coming from rural areas so if I want to access ICT's I have to go to town, Q4, internet café, Q5, sending sms's, playing games, chatting to friends through e-mails and many more, Q6, search for assignment that you have been given in class, look for jobs, for bursaries that are available again e-mails etc. Q7, if everybody would have an access to use ICT's it would be easy to get knowledge without being taught skills and abilities etc. Demographics: Xhosa, Undergrad, <22 yrs, high seg, Male

ID-795, Q1, There are few computers to cater for the whole student body and most websites or search engines e.g sabinet are not accessible because of subscription constraints and usually its impossible for everyone to talk to the chief librarian and get pa, Q2, I get access to journals and articles that are not available in our library and thus more valuable information for use in assignments and research projects, Q3, because I live on-campus and we have a small town(Alice) and there is only one internet café with about 5 computers, Q4, N/A because I mostly use my cellphone, Q5, playing webgames is a complete waste of time because most of these games have no bearing on the courses that im doing, Q6, access to various journals and articles from various scholars gives me valuable diversity and understanding of various concepts related to my courses especially public

international law Q7, N/A

Demographics: ,Undergrad,<22 yrs,average seg, Male

ID-810, Q1, In the library, which is my only access, there are often so many students waiting to use the computers as well. Thus I often (not everytime) have to wait in queue for my turn., Q2, , Q3, Since I don't have my own personal computer, I have to share it with other people, thus my time is limited. I have to use it in a certain time only, Q4, , Q5, Its usually difficult to get exactly what I am looking for using the 'search' option, sometimes what I look for will be unavailable.,Q6, It is sometimes easier to read through the internet than going through books because information is continuously updated there. Q7, I wish to get more personal access to ICTs, probably in my own home since I benefit a lot in my studies. There are many things I noticed as I did this survey that I had no idea existed, e.g using wiki. I would love to get more time to learn tha

Demographics: ,Undergrad,22-25 yrs, high seg, Female

ID-878, Q1, There are not enough computers and even majority don't have internet, Q2, During a practical then I get a chance to access computer, but the internet I hardly get the chance, Q3, it is easy to access computer because I have one at home but it is more difficult to access the internet because we are not concerned, Q4, I access ICTs at home, Q5, nothing at all every information I have ever needed is there,Q6, I can type the word I need and it will appear with the information, I don't have to search a lot Q7, You get limited time which is not good and other computers are not working properly

Demographics: Xhosa,Undergrad,<22 yrs,average seg, Female

ID-936, Q1, There is not enough computers both in the library and in the faculty, Q2, by going to people who have ICTs in the campus when in the library and the department are full and the computers are fully occupied, Q3, It is either there are too much noise for me to work or other people are using it, Q4, By asking them in time that I will occupy it and ask them that might be less noise because I will be working on something important and ask them in time, Q5, There is too much irrelevant information on the net which makes it less help. Games that are relevant to the course I find them a waste of time.,Q6, The net Q7, If I can get enough access to the internet because even where I live (my hometown) there are no internet cafes or computers in the public library

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-943, Q1, Access to them is very limited, the availability of ICTs is minimal., Q2, I use other peoples laptops and if possible I make the library, Q3, access to them, Q4, computers, Q5, N/A,Q6, The information is always relevant Q7, It is limited at my university.

Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-1073, Q1, Its either full or there are pracs., Q2, information, newspapers, emails (networkings) and learn new softwares, Q3, Most of us don't own computers so when you off campus, you don't know where to go for computer access., Q4, Communication, research and assignment., Q5, I don't think theres anything I don't like about ICTs, but there a lots of restriction in computers that you cant even do or learn some of the things. The firewall, privelages etc. (somesites are opened at specific time, some restricted) we som,Q6, Q7,

Demographics: ,Undergrad,26-42 yrs,average seg, Female

ID-1238, Q1, not enough computers, Q2, computer labs, Q3, internet connection/dial-up, Q4, 3g, Q5, sometimes irrelevant,Q6, insight knowledge Q7, they are great

Demographics: English,Undergrad,<22 yrs,average seg, Male

ID-1261, Q1, , Q2, , Q3, there is no free internet off campus, Q4, using a blue tooth phone with airtime will help you access to ict through internet, Q5, using the internet to search unnecessary info. Updating yourself with the latest gossip in sa,Q6, gives lot of info when doing the research on your courses Q7,

Demographics: Setswana,Undergrad,22-25 yrs, high seg, Female

ID-1320, Q1, the lab is small, so most of the time its full & there are no free computers, Q2, info gathering (knowledge gaining), Q3, because I do not own any icts, Q4, n/a, Q5, nothing,Q6, everything Q7, no

Demographics: Setswana,Undergrad,22-25 yrs, high seg, Male

ID-1339, Q1, times that the labs are closed. Often on Sunday when last minute work is to be presented, Q2, n/a, Q3, no computer in communes, Q4, n/a, Q5, very valuable if administered

correctly,Q6, access to more relevant info Q7,
Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-1454, Q1, too many users at the labs, delays, Q2, software announcements by lecturers on how to make use of programs/software, computers, Q3, I don't have computer/internet access at home & have to work on someone else time schedule, Q4, my cellphone & by making use of a friends pc, Q5, ,Q6, the internet, its makes info about nearly anything under the sun (any topic) accessible Q7, we need more online available computers
Demographics: ,Undergrad,<22 yrs, high seg, Female

ID-1465, Q1, there are many students on campus & this somehow makes it difficult to access computers, Q2, , Q3, , Q4, , Q5, ,Q6, it makes things easier, instead of going out to find info you can get it on the internet or cellphone Q7,
Demographics: Sotho,,<22 yrs,average seg, Female

ID-1537, Q1, the availability of it & the number of people in comparison, Q2, the fact that I have my own computer & that I stay on campus, Q3, not having access to internet cafes, Q4, cellphone, Q5, pop ups,Q6, they are easily accessible & you find the relevant info that you want Q7, they are very helpful
Demographics: Sotho,,,average seg, Female

ID-1574, Q1, , Q2, The internet is fast and effective, Q3, The internet is too slow and there is a limited number of computers, Q4, , Q5, nothing,Q6, search engines like google, yahoo etc Q7, No
Demographics: Sotho,,,, Male

ID-1604, Q1, Too many students at certain times, Q2, there are many computers in each lab, and more than one lab, Q3, No internet connection in my flat, Q4, My own laptop, Q5, The amount od irrelevant information appearing on screen when doing a search.,Q6, The vast amount of information available on the internet. Q7,
Demographics: Afrikaans,,,average seg, Female

ID-1619, Q1, Very busy centres, Q2, Large amount of computers, Q3, N/A, Q4, N/A, Q5, Internet connections may be slow or unavailable,Q6, Very large amount of info at your fingertips Q7, N/A
Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Male

ID-1705, Q1, , Q2, , Q3, I leave it at school when I go home, Q4, My brothers laptop, Q5, The popups that appear and damage our computers with viruses,Q6, The ability to surf the net and get information Q7, No
Demographics: Sotho,Undergrad,22-25 yrs, high seg, Female

ID-1719, Q1, When the central computer lab is full, Q2, computer centres, Q3, Sometimes ICTs off campus are not available, Q4, , Q5, N/A,Q6, Being able to find the information that you really need to improve your students Q7, No
Demographics: Xhosa,Undergrad,, low seg, Female

ID-1739, Q1, see A5, Q2, easy access to the labs, Q3, Sometimes there is an error, Q4, Fast, easy, readily accessible, Q5, Cant always find relevant information, timeconsuming,Q6, Large range of information available easily Q7, No
Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-1805, Q1, Labs are full most of the time, Q2, internet, computers, Q3, I live far from the nearest computer lab, Q4, computers, Q5, ,Q6, The internet makes studies/research very easier, because it offers a vast variety of info Q7,
Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-1840, Q1, Labs, Q2, internet, Q3, No internet, Q4, To load files and saved them, Q5, Useless sites with wrong information,Q6, I learn more interesting facts about South Africa and other nations Q7, More previous papers for exam and test should be included in order for a student to get familiar with the pattern it is used to be asked a question
Demographics: Sotho,Undergrad,, low seg, Male

ID-1845, Q1, In lower campus there is nothing hard to access ICT. Since I am IT student we have access of be in computer labs during weekend and holiday at our time duration., Q2, computer lab., Q3, I don't have computer, Q4, computer, Q5, for playing game online,Q6, Is to get information during a study and worldwide Q7, ICT is very helpful. It gives our a chance to explore and to have unlimited

information about my studies

Demographics: Sotho,,<22 yrs, high seg, Male

ID-1875, Q1, Number of computers, Q2, internet, Q3, you have t wait a long time before using a computer, Q4, internet, Q5, The sites with information tend to contradict each other, and that confuses me,Q6, There is information about everything I want to know Q7, It would like the number of computers at my campus to be increased

Demographics: Sotho,Postgrad,<22 yrs, high seg, Male

ID-1908, Q1, , Q2, , Q3, I have to ask permission from friends and in my town there are no internet cafes, Q4, , Q5, ,Q6, knowledge improvement Q7,

Demographics: Setswana,Undergrad,<22 yrs, high seg, Male

ID-2026, Q1, Labs are sometimes too busy, Q2, , Q3, , Q4, , Q5, Typing things it takes long,Q6, Its easier to get info and helps lots Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Male

ID-2033, Q1, N/A, Q2, The availability of resources around campus really makes it easy to access ICTs on campus, Q3, Is the fact that off campus. I have to share a computer with more than four people, as a result you don't have privacy and there is no freedom because there is always someone behind you waiting to use the computer., Q4, The availability of the network really helps to access the ICTs, Q5, N/A,Q6, I think ICT makes our academic work even our social life very easy and makes life to be enjoyable. It makes studying very easy. Q7, We get a lot of information through ICT which helps us to reach our goals

Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-2043, Q1, the labs get over crowded/packed, Q2, , Q3, location, Q4, the fact that I have my own computer, Q5, Sometimes, it is difficult to get a particular article because the link or connection gets lost or you loose the web page and have to start again. Sometimes, it is difficult to find articles need for my course. Very restrictive,Q6, Valuable info. That you can find Q7,

Demographics: Other South African language,Undergrad,<22 yrs,average seg, Female

ID-2047, Q1, There is no problems, however during the day time, there is always problems finding unoccupied pc's in the computer labs., Q2, Help in my academic times, Q3, there is none, except my personal computer. No internet, Q4, see above, Q5, It allows me to find information easy and fast,Q6, The same as above Q7, No

Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-2078, Q1, Nothing, they are there for my convenience, Q2, More informational gain above all. Knowledge is power, therefore having a lot of it [knowledge] less constraints you from doing what you desire or what you are recommended to do. It makes things easy and fast, Q3, The internet for me is quite expensive and with parents who were never exposed to such things, she sees internet as a non-essential, Q4, Obviously having my own makes it more convenient, Q5, Dating sites. Pornography sites.,Q6, I can keep abreast with the day to day I,provements of communication and any other important informatial functions Q7, Access at home is hard but ratherthan that: computers are fantastic

Demographics: Sotho,Undergrad,<22 yrs, low seg, Male

ID-2121, Q1, labs are always too full, too many people, I like my privacy, Q2, internet, Q3, nothing, Q4, computers internet, Q5, too much information, some not relevant,Q6, get lots of information and interesting facts apart my profession Q7, nothing

Demographics: Afrikaans,Postgrad,<22 yrs, low seg, Male

ID-2123, Q1, Work pack used by various groups, Q2, computers, internet, Q3, , Q4, availability, Q5, not finding pertinent info,Q6, Wide selection of resources Q7,

Demographics: English,Undergrad,<22 yrs, high seg, Male

ID-2146, Q1, A lot of people want to access it at the same time, Q2, Computer lab, library and computers in the residence, Q3, nothing, Q4, Internet café, Q5, Sometimes difficult to find relevent information,Q6, makes it easier to access more information Q7,

Demographics: Afrikaans,Postgrad,<22 yrs,average seg, Male

ID-2152, Q1, When the internet is off on campus or doesn't mant to work in my hostel, Q2, I have a PC in my room, Q3, Nothing really. If I cant use my friends computer I use my brothers, Q4, The fact that my brother, sister and finals all have computers and internet, Q5, Internet is slow sometimes,Q6,

You get a lot of information, which gives you more knowledge to work with Q7,
Demographics: Afrikaans,Postgrad,<22 yrs,average seg, Male

ID-2173, Q1, nothing, Q2, The availability of the ICTs at all times, especially if I need to operate it., Q3, The fact that I don't even have one, Q4, nothing, Q5, The internet is sometimes distracting,Q6, The information Q7, This is most appreciated by students
Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-2198, Q1, , Q2, , Q3, , Q4, , Q5, the rotation might be very scattered & takes time to find,Q6, it is always accessible. It give helpful & different perspectives & info Q7,
Demographics: Afrikaans,Undergrad,<22 yrs, low seg, Male

ID-2320, Q1, UJ is comprised of many campuses,in the Buntign Road Campus nothing that has to do with comms works.You can type an assignment, that works fine. But you have difficulty submitting an assignment or printing and making copies.A lot of the times I, Q2, What helped me was the merger between RAU and TWR,because since the merger ICT access is free.(We used to pay under TWR).The other thing that helps is the fact that I have access to use ICT on more than one Campus.Kingsway(RAU) campus is far mo, Q3, Nothing! It's easy, Q4, Working in an IT company and a wireless internet laptop that belongs to my mum., Q5, Using it at my own campus is very slow. Using it at other campuses or at work is helpful,Q6, You have the whole wide world in the small screen you are looking at, google makes the small a smaller place Q7, It's not used enough. The possibilities are infinite
Demographics: Zulu,Postgrad,<22 yrs, high seg, Male

ID-2347, Q1, opening up all the computer labs so that everyone can get access, Q2, 2, Q3, because there are no internet café's where I live, Q4, nothing, Q5, playing games which do not help me with anything except for wasting my time,Q6, you get to know many things which you had no idea they exist. Q7, If I had my own computer I am sure I could gain more knowledge than the one I have now.
Demographics: Other South African language,Undergrad,<22 yrs, low seg, Male

ID-2349, Q1, Systems are slow and crowd not controlled, very noisy., Q2, The number of computers, Q3, n/a, Q4, no noise, Q5, Trying to stream info wanted,Q6, The extreme volume of info available at a click of a button Q7, very good
Demographics: English,,22-25 yrs, high seg, Female

ID-2433, Q1, long queues, Q2, , Q3, I don't have my own computer, Q4, I have access to the internet at home, Q5, lack of interactivity in some subjects,Q6, freedom to learn on your own Q7, making online assessments fairer (less cheating)
Demographics: English,Undergrad,<22 yrs,average seg, Male

ID-2450, Q1, , Q2, computers, Q3, location, Q4, , Q5, ,Q6, improve skills and knowledge Q7,
Demographics: Zulu,Undergrad,<22 yrs,average seg, Male

ID-2581, Q1, long lines of people waiting to use them, Q2, internet., Q3, location, Q4, , Q5, I'm getting used to it, computer was never part of my life before.,Q6, it's easier, faster and makes me feel technologically intelligent Q7, it's been a worthwhile experience
Demographics: Setswana,Undergrad,22-25 yrs,average seg, Female

ID-2585, Q1, when the labs get full or there are network blockages, Q2, don't understand the question., Q3, the availability of computers, Q4, my student card, Q5, the excel sheet formulas,Q6, made aware of things, technology broadens your knowledge Q7,
Demographics: English,,<22 yrs, high seg, Male

ID-2625, Q1, , Q2, labs, Q3, , Q4, I have my own computer, Q5, sometimes saved information gets lost on the system,Q6, there is an online dictionary that is a lot of help and spelling check programme. Internet resources that provide valuable information Q7,
Demographics: Zulu,Undergrad,<22 yrs,average seg, Male

ID-2651, Q1, if there are essays, assignments and other work to be typed, then it is hard to get access of ICTS because everyone would want to get the deadline on time, Q2, gathering information eg. Other journals are electronics, type my essays because my handwriting is horrible, Q3, personally I do not have a computer, I use my friends computer, Q4, I use my cellphone, Q5, text messages using unbroken english this can contribute in one's language in terms of speaking,Q6, a wide information on news, current and old, on leisure and competitions Q7, no
Demographics: ,Undergrad,<22 yrs, high seg, Male

ID-2711, Q1, , Q2, the large PC pool for engineers almost nearly guarantees that I can use a computer, Q3, , Q4, in terms of the internet, there are many internet cafes in my area, so it's a matter of picking one (depending on the rate charged), Q5, there is much too much info on the internet, even when you use an Advanced search. It's irritating when you can't find exactly what you want, Q6, interesting information, that helps you to understand why you do the courses you do Q7,
Demographics: English,,<22 yrs, high seg, Female

ID-2715, Q1, labs are sometimes full. Some computers do not work. Internet is slow during the day, Q2, labs are close to lecture venues, Q3, since I have my own computer, it's easy, Q4, , Q5, some facts on the internet are not true, not reliable, Q6, it is an easy way to obtain and analyse information, especially in the engineering sector Q7, they should provide internet access at all Wits residences!! Internet is the way forward in learning
Demographics: English,Postgrad,<22 yrs, high seg, Male

ID-2733, Q1, there is a lot of us, so sometimes when you visit the computer lab you find all computers occupied and you have to wait, Q2, the stuff that has been chosen to work there helps in a lot with this kind of work, Q3, sometimes you go there after classes and they are closed and others are full, Q4, I can get information when off campus and complete any assignments or anything needed at the time, Q5, chatting with peers, Q6, gives current information about what is happening Q7, some need to be improved especially those accessed using cellphones
Demographics: Setswana,Postgrad,, high seg, Male

ID-2745, Q1, the queues are very long as there is a lack of computers, there is a lack of internet sources on most computers. Most computer labs only operate between 8:30-16:00 which is too little time. Most computers USB ports aren't working, Q2, only if you are lucky you will find a computer whereby everything works, Q3, , Q4, the computer is readily available for me to use, I can access it at any time when I am at home or work, Q5, , Q6, if you have access to a computer easily then it is very helpful. It helps understand better, improves our knowledge Q7,
Demographics: English,Undergrad,<22 yrs, high seg, Female

ID-2753, Q1, , Q2, I get a lot of information that I need to help me with my studies, Q3, , Q4, , Q5, nothing, Q6, google Q7, no
Demographics: Sotho,,<22 yrs, high seg, Male

ID-2807, Q1, because students go there to do their own personal things like sms'ing while some of us have to do our school work, Q2, the internet, because you have access to do some research, Q3, there are few computers where I live so everyone always waits for the other person to be done in order for them to use it, Q4, internet, Q5, , Q6, you get different types of information from different sources Q7,
Demographics: Xhosa,Undergrad,<22 yrs, high seg, Male

ID-2829, Q1, sometimes the lab is packed I stand in the queue for a long period on end and end up leaving, Q2, I get to communicate with my friends all over, Q3, I stay close to the school so I use the computer at school whenever, Q4, no access, Q5, , Q6, accessing the internet and being able to log on to programs like SAM2003 course to improve my knowledge about computers Q7,
Demographics: Setswana,Undergrad,<22 yrs, average seg, Male

ID-2874, Q1, long queues, Q2, there are quite a few places to access computers, Q3, sometimes there are software problems but often it is just the fact that I share a computer, Q4, the software is relatively reliable, as is internet connection, Q5, it is sometimes difficult to reference information, Q6, there is a vast amount of information and you are able to talk to others about learning Q7,
Demographics: English,Undergrad,<22 yrs, average seg, Female

ID-2878, Q1, it's not few people and many computers, Q2, computers, Q3, It's not hard, Q4, mobility, Q5, diversity of information, more fun way of learning, Q6, critical thinking skills because of the diversity Q7,
Demographics: Zulu,Undergrad,<22 yrs, high seg, Male

ID-3074, Q1, Sometimes you find a huge queue of people who want to use ICTs, Q2, internet, Q3, my parents don't allow me to open it, the whole day or the way I want to., Q4, , Q5, nothing, Q6, Gain new knowledge everyday and one can access anything from the ICT to gain knowledge of. Q7, I think they should add more computer labs in residences.
Demographics: Zulu,Postgrad,<22 yrs, average seg, Male

ID-3078, Q1, Very often the ICTs in the libraries do not work, therefore we have to stand in line for a limited number of ICTs., Q2, Computers, Q3, internet and location, Q4, my cellphone, Q5, Sometimes they summarize articles too much, Q6, They give you many viewpoints, opinions and facts. Q7, Make them more accessible, especially at the main libraries.

Demographics: Other South African language, Postgrad, <22 yrs, low seg, Male

ID-3108, Q1, Computers are not enough, Q2, limited time, Q3, No internet café, Q4, None, Q5, adverts that are not related to my studies., Q6, Make it easy to access information Q7, Have to make all to access information

Demographics: Xhosa, Undergrad, high seg, Male

ID-3110, Q1, It make it easy to go to the internet, Q2, It help with research, Q3, No one owns the computers, Q4, location, Q5, Just waste of time, Q6, To improve knowledge, to communicate with other people Q7, To improve skills and activities of ICTs

Demographics: Xhosa, <22 yrs, average seg, Male

ID-3117, Q1, , Q2, It is the time-to book that have been used., Q3, it's that there is no computer off campus at all, Q4, none, Q5, the information that I do not need that is unnecessary., Q6, Q7,

Demographics: Xhosa, Undergrad, <22 yrs, high seg, Male

ID-3118, Q1, most computers are down., Q2, , Q3, There is no computer at home, Q4, I use my friend's computer., Q5, unnecessary information that you are not interested in., Q6, Build my confidence in computer skills Q7,

Demographics: Xhosa, Undergrad, ,

ID-3148, Q1, It is the shortage of computers, Q2, You are in great chances to acquire knowledge all over the world., Q3, Scarcity of computers, Q4, It gives you a wide knowledge about things around the world, Q5, It gives a clear information about things about things around us, Q6, It also gives us an easy way of finding our information Q7,

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Female

ID-3154, Q1, It is very difficult because pf a few computers., Q2, It helps me gather information and make a reasearch and do my assignments., Q3, I don't have a friend that have access to the internet., Q4, No community library in my area., Q5, Find good information, Q6, Access information fast, communicate fast. Q7, No comments

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3184, Q1, Internet Labs, Q2, Labs, Q3, Internet, Q4, Location, Q5, Internet Dating, Q6, Information about my studies Q7, Put more valuable information.

Demographics: English, <22 yrs, high seg, Male

ID-3194, Q1, The computer labs are few, Q2, is the timetable., Q3, I live in rural area., Q4, There is nothing to help me., Q5, Other e-mails that they send to me for their advertisement., Q6, It improve my learning skills Q7, no

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Male

ID-3201, Q1, computers, Q2, help by friends who has computers, Q3, It is far from where I stay, Q4, I get it from a friend and relative, Q5, waste of time, Q6, Make learning easy, knowledge and skills Q7, Yes to have more skills and knowledge about computer

Demographics: Xhosa, <22 yrs, high seg, Male

ID-3249, Q1, Lack of internet and shortage of labs, Q2, Library, Q3, There are no computers at home, so I don't use it, Q4, , Q5, messages that are unwelcome, Q6, Get relevant information about what I am researching Q7, N/A

Demographics: Xhosa, Undergrad, average seg, Male

ID-3293, Q1, N/A, Q2, N/A, Q3, N/A, Q4, N/A, Q5, I would like it because it would help me to improve my knowledge, Q6, N/A Q7, N/A

Demographics: Zulu, Undergrad, <22 yrs, high seg, Male

ID-3331, Q1, because we don't have enough computers at our university, Q2, to search info, Q3, because I don't have computer at home, Q4, , Q5, I don't like sometimes because when I open my email I can found some boring stuff, Q6, to search info about my assignment & others Q7,

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3387, Q1, Limited time to use computers. Large numbers of students to use few computers, Q2, time management, Q3, no electricity, Q4, nothing, Q5, Nothing, Q6, Improve my learning and explore my knowledge Q7, No

Demographics: Xhosa, Undergrad, <22 yrs, high seg, Male

ID-3394, Q1, The computers always fully booked, Q2, The time table, Q3, because we are living in the rural areas and there is no computers, Q4, none, Q5, Unnecessary information that you are not interested in, Q6, Finding information that is necessary for your research Q7,

Demographics: Xhosa, Undergrad, high seg, Female

ID-3428, Q1, from 8:00 to 16:00 the labs are used for classes. From 16:00 to 21:00, they are open for everyone. The labs get full, Q2, Going to the residence to use my friends computer, Q3, , Q4, , Q5, , Q6, The fact that we get more knowledge when we use these socialised softwares Q7,

Demographics: Xhosa, Postgrad, average seg, Male

ID-3429, Q1, Time allocated for the use of computers has to be the one thing that makes it hard to access computers, Q2, , Q3, Its not hard to access computers off-campus, Q4, , Q5, , Q6, The fact that you can get information from a touch of a finger makes things very easy Q7, I wish we had more access to computers at campus

Demographics: Xhosa, Undergrad, 22-25 yrs, high seg, Male

ID-3447, Q1, One central lab with few computers and there is no booking for the ICTs and other labs are not openers when we want to use them, Q2, Come early in the morning or wait till late when most students left the labs, Q3, There is no internet café or computers available, Q4, Ask someone who has a PC to make use of IT when it is on weekends, Q5, No-one is specifically asked to assist us if we get any problem and sometimes there is no internet, Q6, The information is broad and you can choose whatever you want to complete the task with valuable and important information Q7, Add more labs for students. Open 24hours internet. Also please open labs on weekends and public holidays - labs should always be opened for easy access for students

Demographics: Xhosa, , , ,

ID-3450, Q1, Computer labs are always closed after school, Q2, Only when it is class time, Q3, There are no computers, Q4, Use friends computer, Q5, to get unnecessary information, Q6, Get information on time Q7, I wish to be put in place in my institution

Demographics: Xhosa, Undergrad, <22 yrs, high seg, Male

ID-3469, Q1, Most of time there is no network in our labs while they are open, if there is internet few of them, most of them they do not have internet, Q2, The most thing that help is the availability of many computers in our labs with internet, although there are few computers in our campus, Q3, Location, Q4, Availability of computers, internet, Q5, N/A, Q6, To be current of everything that I want is what is valuable about using ICT, knowledge is the most important thing, finding out things by myself Q7, Looking at the needs of the students of the particular campus is important, so that their needs can be reached for ICT to do its purpose not just do for the sake of doing eg. Ensuring that all students get enough good computers with internet

Demographics: Xhosa, Undergrad, <22 yrs, average seg, Female

ID-3500, Q1, because of lack of computers, Q2, in order to know, Q3, There is no internet, Q4, I don't get help, Q5, They help me, Q6, They assist me when gathering information Q7, They must expand/buy more computers

Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-15, Q1, most of the computers at the computer lab don't work, it can be frustrating waiting for hours, sometime, hoping a computer might become available, Q2, having lecturers who are willing to allow you to use the computers for purposes of accessing the internet to do research and also typing assignments, Q3, cost factors and since they are few, they are almost always full, Q4, we come together as a group of friends and we all pitch in to pay so its much easier, Q5, some process take long, the pc can freeze without warning, Q6, makes studying easier, and when you save information you know exactly where to find it and how to access it Q7, icts are very helpful. information and research data I collected in my first year is still available or saved and I can access it at anytime if need be. it makes finding files a lot easier

Demographics: Zulu, <22 yrs, average seg, Male

ID-32, Q1, programming especially c++, Q2, , Q3, no difficulties because I don't own any computer, Q4, nothing, Q5, damage my eyes consuming time even skip the classes because of it, Q6, relate us

with everyday happening changes & technologies & save time when doing research you find anything within Q7,

Demographics: Sotho,Undergrad,<22 yrs,average seg, Female

ID-85, Q1, , Q2, , Q3, , Q4, , Q5, some things at ict are a waste of time,Q6, make studying easier Q7, no comment

Demographics: .,<22 yrs,average seg, Female

ID-108, Q1, time allocated, Q2, to do my work I always have to have access to icts ptherwise I am going to fail my course, Q3, I have to wait for the main users to complete his tasks 1st & is then that I can use it, Q4, to complete nt portfolio activities & ??? Work for learners, Q5, playing games I am always committed to do university work and school work for learners,Q6, makes my studing easier. Improve my learning. Improve my work/learning. Safe time (safer than using manual) Q7, it will save my time & benefits the learners that I learn to access more info compared to when I use manual

Demographics: Setswana,Undergrad,<22 yrs, low seg, Male

ID-132, Q1, the constant offline on computer & cant access the internet to do research, Q2, , Q3, insufficient computers at the computer lab, Q4, having one's own computer, Q5, ,Q6, Q7,

Demographics: Setswana,Undergrad,, low seg, Female

ID-141, Q1, lack of functioning computers, Q2, computers, Q3, lack of computer & internet, Q4, I cant get access to a computer, Q5, takes a long time to access info on internet,Q6, large amouts of info are available Q7, please provide more working computers

Demographics: Setswana,,<22 yrs, high seg, Male

ID-166, Q1, a lot of students use the icts on campus to do their academic work thus we find that there is a shortage of computers, Q2, it helps that I come early before the computer lab opens. Yet this is helpful only if I do not have the morning lectures. Otherwise I will have to wait for a hour or so before getting a computer in the lab, Q3, the computer I use off campus need some installation eg internet & it does not sense the memory stick, Q4, no help, Q5, ,Q6, internet, ms (word, powerpoint, excel, access) webmail Q7,

Demographics: Setswana,Undergrad,, low seg, Female

ID-194, Q1, computers, Q2, computers, Q3, internet, Q4, my computer, Q5, playing games & chatting,Q6, getting info about my course from other universities Q7, I would like the people in charge of icts to make things easy for us to study & eliminate pornography in the icts place

Demographics: Setswana,Postgrad,<22 yrs, low seg, Female

ID-200, Q1, most of the time the computers are occupied by other students. Others are not working, Q2, to find info for assignments & on bursaries etc, Q3, it is expensive to use the internet off campus & always couupied, Q4, to type assignments & study via visiting different sites on the internet, Q5, nothing,Q6, nothing Q7, our institution needs to get more computes that are in good shape & update the internet for out use. The internet is very slow

Demographics: Setswana,Undergrad,<22 yrs,average seg, Female

ID-387, Q1, I think what makes it the hardest for me is that I don't always have time to sit infront of a computer and search for information it is time consuming for me, Q2, To have a topic available and then search for information relevent to the topic. Friendly people who assist you in for example the library, Q3, I would again say that it is time consuming and because I have internet at home, I don't bother to go to other places to get information., Q4, My computer at home, Q5, ,Q6, Q7,

Demographics: English,Undergrad,, low seg, Male

ID-470, Q1, It is not hard, Q2, Finish all my works related to computers on time, Q3, Because I don't have the internet, Q4, Finish some of assignment during weekends, Q5, like everything about it.,Q6, help me with a lot of my assignment Q7,

Demographics: Other South African language,Undergrad,<22 yrs,average seg, Male

ID-643, Q1, sometimes the computer labs are full, Q2, I know how to use a computer, Q3, I have to use a friends computer & he is usual busy on it, Q4, I can use a computer at home, but I only go home once a month, Q5, nothing,Q6, I find it comfortable & very useful to be able to study & work from my room & if spares a lot of time Q7, I don't get time to fo everything I need to, cause the computer labs are always full

Demographics: Afrikaans,Undergrad,<22 yrs, high seg, Female

ID-978, Q1, They are not enough, Q2, Getting a friends, Q3, Internet cafes are expensive. This makes me to budget my finals wisely, Q4, I visit the cafes irregularly although I would want to access internet more often., Q5, very valuable because ICTs are user friendly. They are fast and efficient.,Q6, You get information instantly Q7, No
Demographics: Xhosa,Undergrad,, low seg, Male

ID-982, Q1, Limited time (from 11:00am-10:00pm) but that clashes with lectures and tutorials, Q2, Allows me to research on items I need clarity on or to get the most recent info on a particular subject, Q3, internet cafes are not available in Alice., Q4, If I get access to it, then I can at least study in my own time., Q5, systems slow, therefore a waste of time,Q6, availability of current information improves learning Q7, None
Demographics: ,Undergrad,<22 yrs, low seg, Male

ID-1075, Q1, Doing practical assessments, most computer labs will be occupied, Q2, additional faculty computer labs. (instructed access), Q3, internet, Q4, Practical knowledge I have (networking, software,...), Q5, ,Q6, Don't have to pile huge volumes of books (hard copies) on my desk. All that can be retrieved from micro chips Q7,
Demographics: Other South African language,Undergrad,<22 yrs, high seg, Female

ID-1128, Q1, When I need to access it the server is always down or off or too slow, Q2, Labs, computers, software use for practicals, Q3, not having internet on computer away from campus., Q4, , Q5, ,Q6, was helpful for 1st year economics Q7, Peers should be restricted from using internet for personal use because when you need a computer you cant have access to one as others are using for their cellphones
Demographics: ,,<22 yrs, high seg, Male

ID-1137, Q1, that @ campus there aren't enough computers to student access, Q2, internet, Q3, can't spend enough time that I desire because am not the owner of the computer, Q4, mostly surfing the internet, Q5, its addictive once you get used to it, even if its not for academic purpose you'll stick to the pc just to satisfy your present desire cause it will be be not for academic purpose,Q6, its punctual & not time consuming when you in a hurry Q7, learning with icts has become the most efficient & globalised recognised studying & helping student to reach goals
Demographics: Zulu,Undergrad,, low seg, Male

ID-1183, Q1, sometimes they fully booked, Q2, flexible times, Q3, , Q4, , Q5, powerpoint slides that are not comprehensive,Q6, saves time making notes Q7, no
Demographics: Sotho,Undergrad,<22 yrs,average seg, Female

ID-1307, Q1, the fact that some computers are slow in processing info, Q2, when it is quick, it is effective, Q3, no internet coverage, Q4, , Q5, sometimes the pop-up screens,Q6, saves time & is very informative Q7,
Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-1318, Q1, it usually occupied, Q2, internet, Q3, nothing, Q4, location, Q5, wastes time,Q6, learning new things Q7, no
Demographics: Afrikaans,,<22 yrs, high seg, Female

ID-1390, Q1, its not hard to access icts on campus, Q2, the labs are located nearby my classes. Therefore its not far to walk & much easier to access. The staff are very helpful at the labs. There are 3 labs on campus from which students can choose, so there's enough room to accommodate a lot of stu, Q3, its not hard for me to access icts off campus because I have my own, Q4, I have my own computer (laptop). I don't have to share it & I can use it whenever I want to, Q5, it makes everything faster & saves a lot of time,Q6, I receive all the info I need on icts Q7, no
Demographics: Afrikaans,,<22 yrs, high seg, Male

ID-1433, Q1, nothing, Q2, , Q3, we don't have a computer at home, Q4, , Q5, ,Q6, saves time & makes learning easier Q7,
Demographics: Setswana,Undergrad,<22 yrs,average seg, Male

ID-1483, Q1, the internet can take really long sometimes, Q2, computers, Q3, , Q4, , Q5, when you have to search forever for the info you want,Q6, that my courses info are online Q7,
Demographics: English,Postgrad,22-25 yrs,average seg,

ID-1572, Q1, There are a few computers on campus, so sometimes the computer labs are full and we have to wait in line to be attended to., Q2, Ive my own pc, where I access the internet and do school

work on it., Q3, I stay in the rural areas, so accessing my university exam results is very difficult, Q4, I get added information on subject that interest on me or what I don't understand, Q5, They most often confuse me thus becoming a waste of time for me, Q6, Make finding cases quick and easy Q7, N/A
Demographics: Other South African language, Undergrad, <22 yrs, low seg, Male

ID-1637, Q1, It is hard to access a computer because, sometimes there is no computer available, Q2, computers, Q3, location, Q4, internet, Q5, Things that are a waste of time., Q6, Improve my learning and studies become easy Q7, No
Demographics: Setswana,, <22 yrs, low seg, Female

ID-1638, Q1, Not very relaxing in the labs, Q2, Computers, internets, software, Q3, computers, Q4, N/A, Q5, makes work easy, Q6, makes work easy - rid of paper work Q7, N/A
Demographics: English, Undergrad, 22-25 yrs, high seg, Female

ID-1647, Q1, Nothing, Q2, Fast internet, Q3, Nothing, Q4, Fast internet, Q5, Waste of time/cant find what I want immediately, Q6, Learning new things. Its faster than looking for information in books Q7,
Demographics: Afrikaans, Undergrad, 22-25 yrs, high seg, Female

ID-1773, Q1, The computer labs are sometimes full, Q2, The students get a certain amount of megabites every month, which helps when I am doing research., Q3, The internet might be off, at the specific place I use ICTs for periods of time. The software is sometimes slow and outdated., Q4, The library where I usually use computers is only a few minutes away, Q5, Searching through many pages before finding a relevent one, Q6, It improves my knowledge of the subject Q7,
Demographics: Sotho, Undergrad,, high seg, Female

ID-1782, Q1, Labs, Q2, internet, Q3, , Q4, , Q5, Things that are a waste of time., Q6, make studying easier Q7, no
Demographics: Sotho, Undergrad, <22 yrs, average seg, Female

ID-1886, Q1, They sometimes have over crowded and full labs so you cannot access the computers when you need them, Q2, The computer labs, Q3, There arent a lot of internet cafes in my area, Q4, My friends laptop computer, Q5, Sometimes it takes time to log onto a certain website, cause it takes up some of your time, Q6, It tells you stuff in a creative mannor Q7, No, I enjoy the time I spend using it/them and will never stop
Demographics: Xhosa,, , ,

ID-1907, Q1, slow connection. Full/overcrowded computer labs, Q2, , Q3, As I pointed out, we have 3 people + 1 phone line, Q4, , Q5, It is all very helpful, however, it is frustrating when flash is used as dial up is slow, and even broadband struggles, Q6, I can work at my pace. All the info is available at a click of a button. Paperwork can get lost, where electronic assignments are safe Q7,
Demographics: English, Postgrad, <22 yrs, high seg, Female

ID-1925, Q1, not enough computers, Q2, , Q3, I do not have a computer at home or elsewhere, Q4, n/a, Q5, Its easy, fast and effective, Q6, It makes study and completing tasks easier Q7,
Demographics: Afrikaans, Undergrad, <22 yrs, average seg, Male

ID-2034, Q1, There is not enough computers for students, especially on relevent courses, Q2, , Q3, I don't computer, therefore I cannot have any access of internet and other source of information, Q4, , Q5, Now, because it covers all the above, Q6, It saves time and improve knowledge Q7, It is very important and fascinating, and helpful as well
Demographics: Sotho, Undergrad, <22 yrs, high seg, Male

ID-2099, Q1, nothing really, Q2, It also opens for certain hours during weekends, so it becomes more easy to access, Q3, nothing really, Q4, we own one at home, Q5, It is time consuming, especially with irrelevant stuff, Q6, it is convenient Q7, no
Demographics: Sotho, Postgrad, <22 yrs, average seg, Female

ID-2126, Q1, The computers are often all occupied, which means one has to wait a while. Internet sometimes very slow, Q2, The lab stays open till 10 o'clock at night which means one can still work quite a few hours after a days classes, Q3, Share computer with others, so not always available. No internet, too expensive, Q4, More comfortable being able to work at home through the night if necessary, Q5, Slow internet, power failures that make you loose info sometimes, Q6, It really makes things much faster and easier. It also saves money, since electronic copies are easy to send. Makes it easier to understand the work Q7, No
Demographics: Afrikaans, Undergrad, <22 yrs,, Male

ID-2127, Q1, nothing, Q2, computers and computer labs, Q3, Internet - I don't have it on my PC at home, Q4, Internet Cafes, Q5, Sometimes its time-consuming when I don't know how to do something on my PC and have to figure it out. But, once ive learned it, its worth it,Q6, It helps me to study and to learn Q7, No

Demographics: Afrikaans,,22-25 yrs, low seg, Female

ID-2135, Q1, It often gets congested and computers are unavailable at peak times. Sometimes the server is down and we cannot access the internet, Q2, Generally when it is not crowded and there are no problems with the server, I can research my assignments on the net and type up the assignments, Q3, location - internet cafes are for and a hassle to get to, Q4, When I am off campus I can continue with my work because although they are far, they are readily available (internet cafes), Q5, Too much information and options can destruct on and end up spending too much time fiddling around. (waste of time),Q6, Wide resource base of information and provision of up-to-date information via internet Q7,

Demographics: Sotho,Undergrad,22-25 yrs,average seg, Male

ID-2157, Q1, N/A, Q2, user-friendly software, Q3, N/A, Q4, Having the latest software. It is my own property, Q5, If you are not sure what you are doing/looking for, and there is no one around to help or give guidance, it can be a waste of time,Q6, It gives you access to sources Q7,

Demographics: Afrikaans,Undergrad,, high seg, Female

ID-2193, Q1, privacy/for study 1 time -late night, Q2, labs/bib, Q3, location, Q4, location, Q5, time consuming rather use books,Q6, info Q7,

Demographics: Afrikaans,Undergrad,<22 yrs,average seg, Female

ID-2260, Q1, , Q2, computers, Q3, , Q4, , Q5, it make it easier to run your schedule without running around,Q6, that it is always there if you need help Q7, the access to ICT is easy but I wish they could make it much more simple

Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-2280, Q1, It is only hard when the system is down and one can not access edulink to complete their assignments, while waiting for the system time is wasted and the due time for the assignment might even pass., Q2, It is easy to retrieve information and when you're submitting assignments electronically one can still have access to the assignment handed in for later use., Q3, I don't have my own computer and hardly go to internet cafés, Q4, , Q5, Receiving a lot of junk mail from other stedents,Q6, We can retrieve previous lecture's slides for more info and insight. Q7, no

Demographics: Sotho,Undergrad,<22 yrs,average seg, Female

ID-2427, Q1, overcrowding, slow network and limited access to labs, Q2, early arrival to the labs, Q3, , Q4, , Q5, nothing,Q6, decrease workload, improve computer skills Q7, no

Demographics: Zulu,Undergrad,<22 yrs, high seg, Female

ID-2466, Q1, internet takes time, full labs, Q2, fellow students, Q3, everyone has to use it and it doesn't function very well, Q4, my friends/relatives, Q5, so far there are none,Q6, I can save time and paper when I submit my work online and it is very helpful with research work Q7, it should be improved because sometimes it's a bit slow

Demographics: Sotho,Undergrad,<22 yrs, high seg, Female

ID-2571, Q1, nothing, Q2, the fact that we have computers with internet at res, Q3, nothing, Q4, my cellphone, Q5, if you don't know what your'e doing or how to do what you are doing or where to find something on your computer/ internet then it wastes valuable time and that is irritating and frustrating,Q6, it is easier and faster than going through books at the library. Q7, no

Demographics: Other South African language,,<22 yrs, low seg, Male

ID-2590, Q1, nothing specifically, it is just that the queue is very long, Q2, being early on campus, but sometimes I use the residences computers, Q3, nothing, Q4, the convenience because I can use the ICTS at any time even during the night, Q5, it consumes a lot of time, although the content is very helpful,Q6, make me find information very easily, especially for my research Q7, it is good technology and it makes life easier for me.

Demographics: Sotho,,<22 yrs, high seg, Male

ID-2592, Q1, when there are not enough of those resources and I have to wait in long queues to use them, Q2, internet, can get a lot of info in there., Q3, availability, Q4, being able to continue doing school work, being able to contact lectures after hours via e-mail, Q5, not knowing how to use them

efficiently,Q6, it's quick Q7,
Demographics: ,Postgrad,22-25 yrs, high seg, Male

ID-2627, Q1, number of computers available at a given time, Q2, increased number of computers, Q3, Resources (lack thereof), Q4, my cellphone, Q5, takes too much time, limited access,Q6, vastness of info Q7,
Demographics: Setswana,Undergrad,<22 yrs,average seg, Female

ID-2676, Q1, Labs, Q2, internet, Q3, , Q4, , Q5, it is a bit complicated,Q6, it is a quick way of getting information etc. if you know how. Q7, no
Demographics: Sotho,Undergrad,<22 yrs, high seg, Male

ID-2726, Q1, the waiting process. Something urgent needs to get done and time is of crucial importance at that time but there is a line I have to follow just to access ICTS on campus. And get some people busy on the computers are sending sms's, looking at, Q2, the accessibility of the computer labs. There is a computer lab across the road from my residence, Q3, I have no dial up connection for the internet, Q4, I can do certain projects or assignments that don't require the internet on my PC, Q5, waiting, when on the internet, it takes long to download information,Q6, finding specific information without having to go through many books Q7,
Demographics: English,Undergrad,<22 yrs,average seg, Female

ID-2737, Q1, labs can be full sometimes and you have to wait in line for a while to get your turn, Q2, there are a number of different labs that one can use, Q3, not having my own computer, Q4, friends, Q5, can make you lazy because you don't have to for example, complex calculations with your head, the computer can do it,Q6, make work completion easier and quicker Q7, no
Demographics: Other South African language,<22 yrs,average seg, Female

ID-2836, Q1, sometimes the computer labs are full and no free ICTs are available for use, Q2, to go there early (labs), Q3, there are no internet cafes close to where I live and I do not have a personal ICTs, Q4, taking a taxi to internet cafes in town, Q5, none,Q6, they make your work easier and faster Q7, they are very vital for learning
Demographics: Other South African language,Undergrad,<22 yrs,average seg, Male

ID-2837, Q1, the labs get really full so you have to wait in line, that takes up too much time. So you have to search for a lab that has a free PC., Q2, I get information easily from using ICTs and there are people to help you in the labs to get this info, Q3, nothing, Q4, , Q5, in some cases it's a waste of time,Q6, I like the fact that I can do my some of my tutorials online instead of going to class Q7,
Demographics: ,Undergrad,<22 yrs, high seg, Female

ID-2983, Q1, no time to spare, Q2, availability, Q3, long distance from home., Q4, I get dropped off at a friends place (who has a pc) every morning., Q5, Time allocation and help simultaneously are hard to get.,Q6, saves time when you know what to do. Q7, no
Demographics: Setswana,Undergrad,<22 yrs, low seg, Female

ID-3006, Q1, The computer labs often get quite full during times where there are many deadlines., Q2, internet, Q3, There is a high shortage of computers at res, Q4, The few computers that are there., Q5, The computers are sometimes very slow to download and it does waste time.,Q6, Getting notes on the net helps you, because you can just listen in class and prepare well for your lecture before. Q7,
Demographics: Zulu,Undergrad,,average seg, Female

ID-3008, Q1, lack of computers, Q2, , Q3, time, Q4, accessibility, Q5, ,Q6, Enables you to be organised. You have lots of relevant information that can all be stored in folders, not in bits of paper all over the place. You can compare your knowledge with articles on the same topic. You can download notes for a lecture Q7, It's very helpful to be able to communicate to your lecturers by email as they are not available when you may need them after hours or on weekends.
Demographics: English,Postgrad,,average seg, Male

ID-3009, Q1, often very busy, and not enough technical assistance to help with problems., Q2, , Q3, No support when encountering issues, Q4, sole user of computer, privacy, Q5, The amount of useless information (specifically over the internet) that can hamper and and consume time.,Q6, The amount of information available to use. Q7,
Demographics: English,Undergrad,<22 yrs,average seg, Female

ID-3020, Q1, Too many students and not enough computers to accommodate the students, Q2, , Q3, , Q4, , Q5, consumes less time than going to the library, Q6, research Q7,
Demographics: Zulu, Undergrad, <22 yrs, low seg, Male

ID-3111, Q1, Computers are not enough, broken computers, cannot connect to internet because of server., Q2, Limited time while having classes or time table., Q3, No internet cafes in our rural areas or townships., Q4, None, Q5, adverts that are not related to my studies., Q6, Make it easy to access information Q7, put more facilities in our university
Demographics: Xhosa, Postgrad, <22 yrs, average seg, Male

ID-3237, Q1, Few computers available, Q2, I research, apply and type my academic work, Q3, It is usually unavailable, Q4, If I wake up early in the morning, Q5, They consume a lot of time and uneasy to access and no communication with lot of people, Q6, Improve my learning skills, typing Q7,
Demographics: Xhosa, Undergrad, <22 yrs, low seg, Male

ID-3255, Q1, I use computers to make my assignments, Q2, , Q3, I don't know how to use internet, Q4, There is no community library in my area, Q5, It is not easy to attend, Q6, To get information faster Q7, Computers must be used on course from level 1 to level 3
Demographics: Xhosa, <22 yrs, high seg, Female

ID-3259, Q1, There are few computers, Q2, You booked first before using them, Q3, None, Q4, None, Q5, things that are a waste of time, Q6, doing things that are helpful Q7, no
Demographics: Xhosa, Undergrad, <22 yrs, high seg, Female

ID-3313, Q1, , Q2, to come early to the computer library, Q3, because in my place there are lack of computers, Q4, , Q5, icts is very important because it improve my computer skills, Q6, it help me by new technology Q7, icts save time at work
Demographics: English, Undergrad, 22-25 yrs, high seg, Female

ID-3337, Q1, there is a shortage of computers, Q2, computers, Q3, I do not have a computer, Q4, , Q5, things that are waste of time, Q6, it improves my learning Q7, no
Demographics: Xhosa, Undergrad, <22 yrs, average seg, Male

ID-3487, Q1, Sometimes the internet is no available, Q2, Internet, Q3, I am always busy with my school work and I use computer when conducting research, doing assignment, Q4, The computers who have access to internet, Q5, waste time sometimes, Q6, The help me in getting research or assignment Q7, The use of internet
Demographics: Xhosa, Undergrad, <22 yrs, average seg, Female